WWW.DOORSPEED.RU

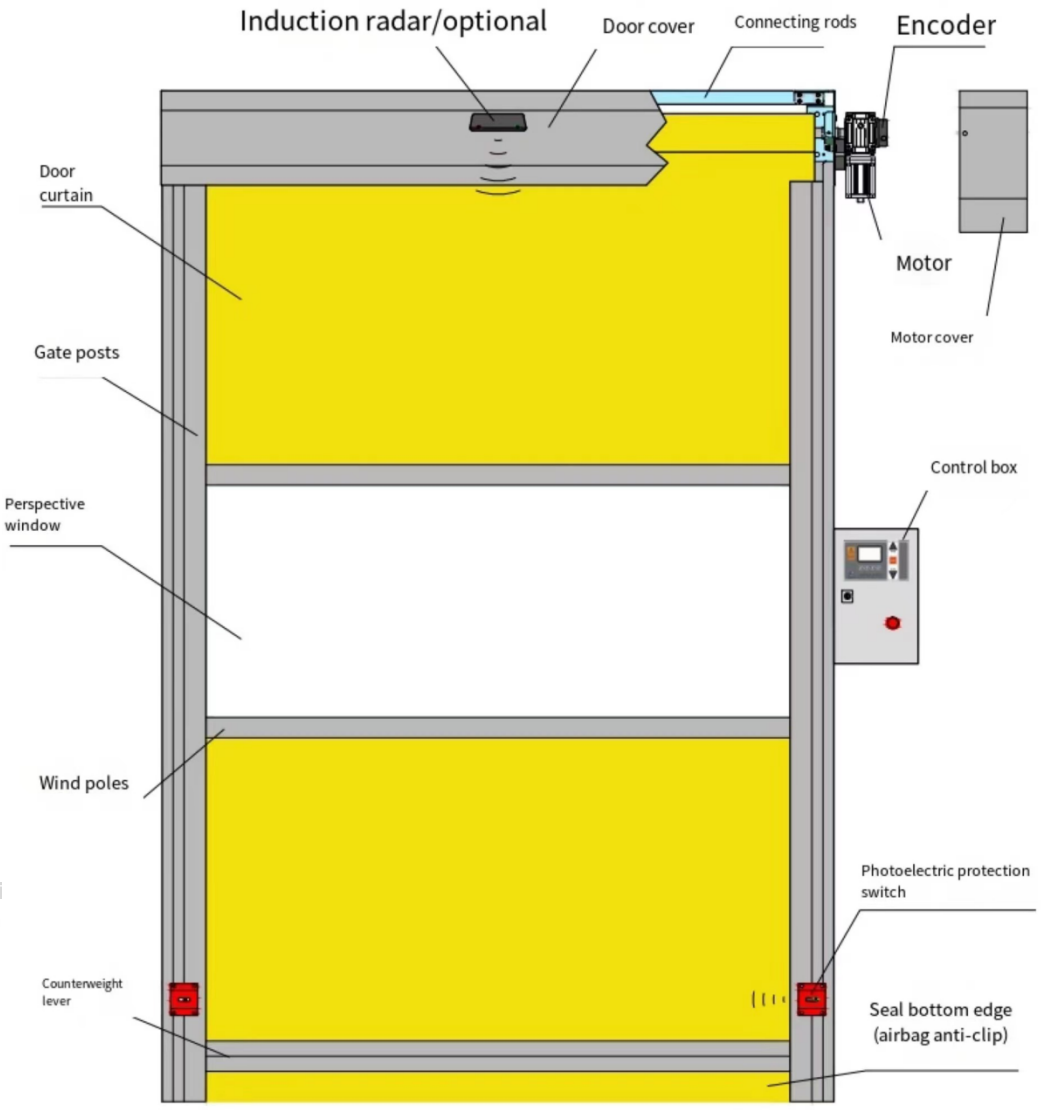
TYPE F223 FAST DOOR

Introduction

The fast door mainly has functions such as insulation, moisture retention, dust prevention, insect prevention, sound insulation, and wind resistance, ensuring that the workshop maintains a constant temperature, humidity, and cleanliness, providing you with a comfortable working environment.

Fast doors are suitable for fields such as food, medicine, electronics, rubber, chemical, automotive, textile, logistics, etc.

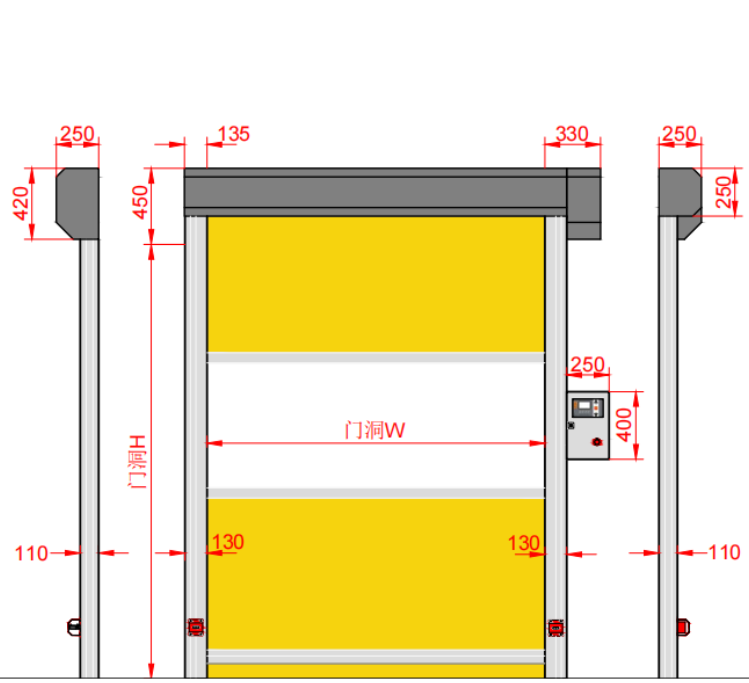
Type F223 diagram



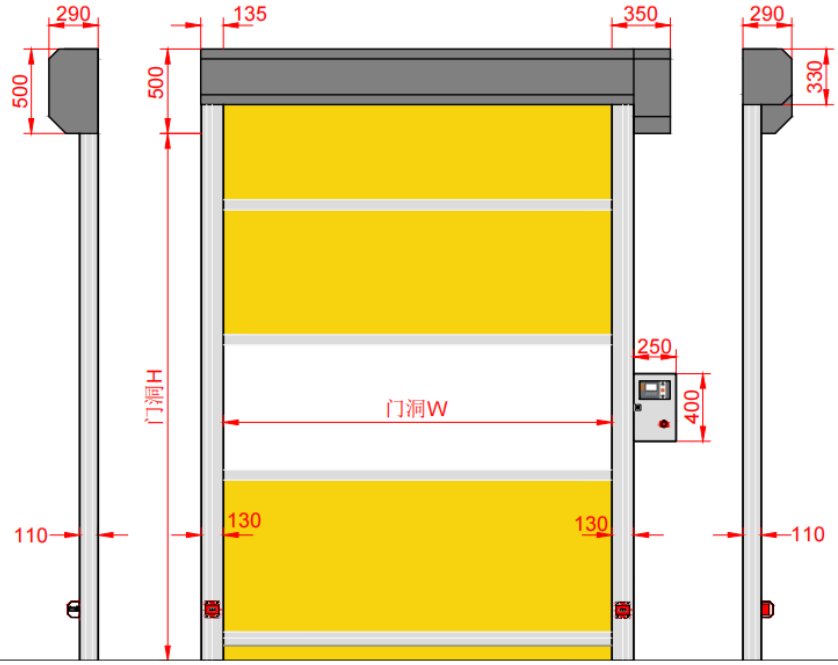
Photoelectricity can be replaced with gratings

Installation space for F223

F223标准型



F223大型



All marked dimensions are only the dimensions required for the product itself, Excluding additional space required for installation and maintenance.

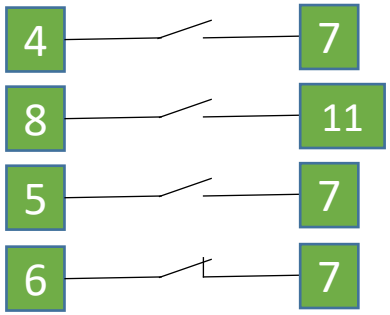
Safety indicator

1. Before starting any operation, please read the product manual carefully;
2. When using electrical materials, please take any possible preventive measures as they may be charged;
3. When the power or mechanical components of the device fail, the power must be cut off and locked first, Wait for 15 minutes before executing the operation, which is required for the capacitors used in the frequency converter Perform discharge;
4. When maintenance is required, first check whether the electrical power supplies of the product are in good contact and correct grounding?
5. When a malfunction occurs, please record the fault information displayed on the screen.

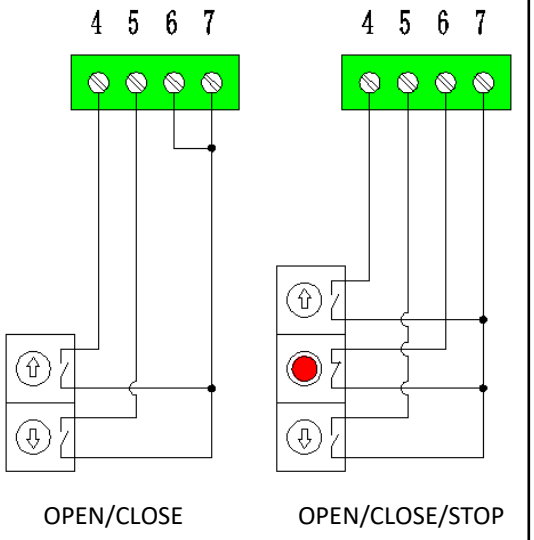
Operation guide

Button operation

Control box panel wiring



External button box wiring



Attention: After pressing the "Stop" button, the door will be in a stopped state, and induction switches are invalid. Only by pressing the "Open" or "Close" button can it resume operation.

The "Input Status Query" in the "Information" section can observe the current status of each port. A display of 1 indicates that there is a valid signal input for the port, which can be used for system maintenance diagnosis.

Fault resolution:

1.When the door cannot be closed, a short circuit occurs between the door opening button or terminals 4 and 7;

2.When the display screen continues to display "Stop (8)", the stop button or terminals 8 and 11 are short circuited;

3. When the door is opened and immediately closed without delay, a short circuit occurs in the door closing button or terminals 5 and 7;

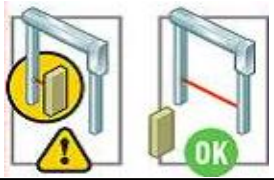
4.When the display screen shows "emergency stop (6)", turn on the emergency stop button, or terminals 6 and 7 are disconnected.

Sensor

Sensors (protective devices)

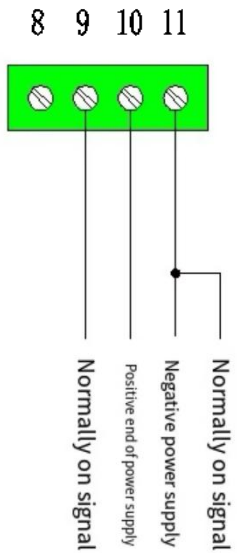
When personnel and goods pass under the door, the sensor is triggered to lift the door curtain in reverse

Photoelectricity
Installed at the bottom of the door pillar, about 30cm above the ground

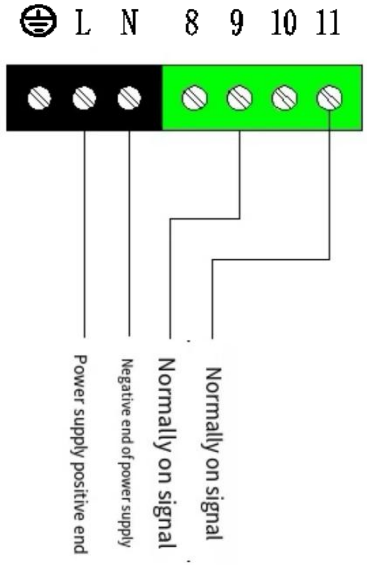


Grating
Installed on both door pillars, with cables inserted into the control box, Then connect the control box to the control box

Airbag receiver
Installed at the bottom edge of the door curtain
Airbag transmitter
Installed inside the control box



Photoelectric/airbag anti-clip protection



Raster anti-pinch protection

The green light is always on when the photoelectric is aligned, the red light is off, and the red light is not aligned;
When the grating is aligned, the yellow light is always on, the red light is off, and when it is not aligned, the red light is on;
The normal state of the airbag receiver is that the red light is constantly on, and when triggered, the red light flashes.

Fault relief:

When the door cannot be closed and the display screen shows "photoelectric (9)", please check in order:

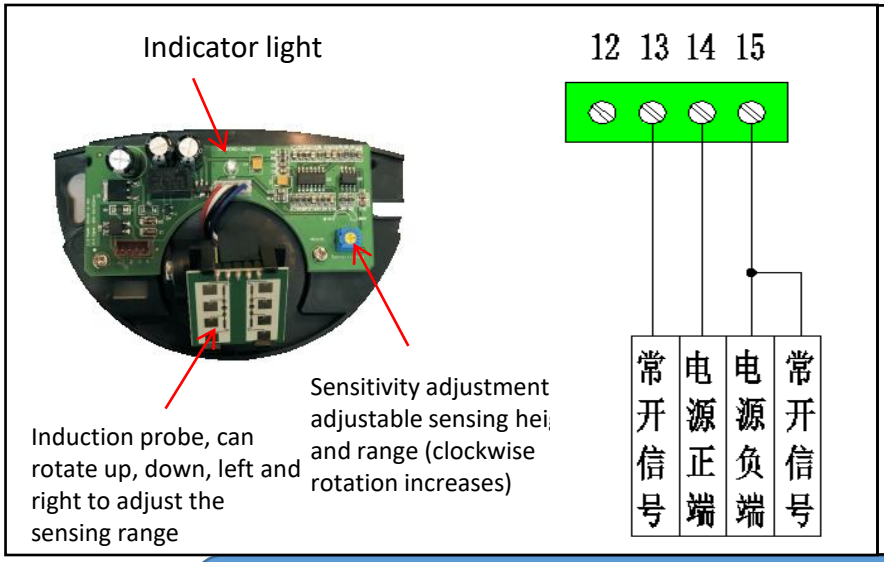
1. Check if the transmitters and receivers of the photoelectric and grating on both sides of the door pillar are aligned or short circuited (damaged).

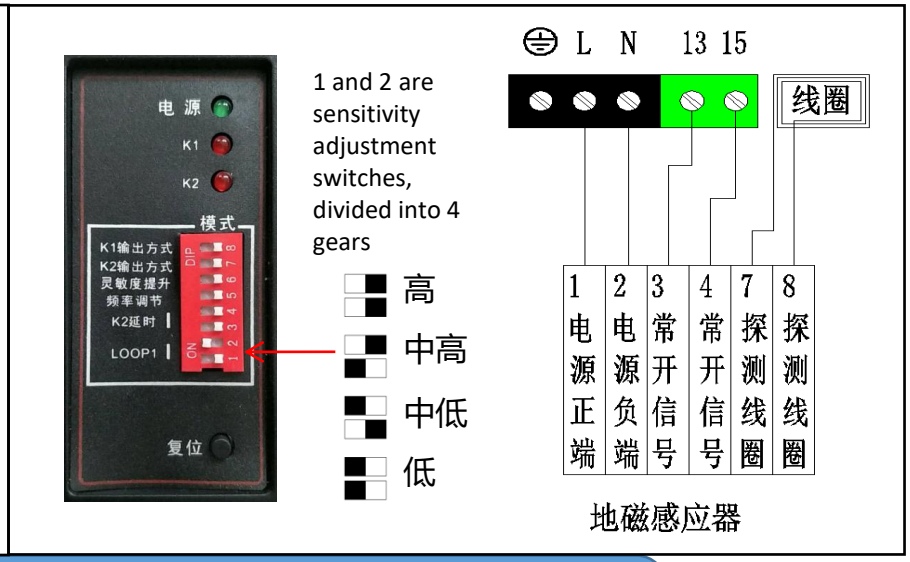
Please check the installation angle of the door pillar and whether there is any impact deformation when the grating is not aligned?

2. Check if the airbag receiver inside the control box is triggered or short circuited (damaged).

Sensor

Radar and geomagnetic sensors (opening device)
Enable external opening device in automatic mode





The normal state of the radar is that the indicator light is red and off, and the red light is on when triggered
The normal state of the ground sensor is that the power indicator light is always on, and when triggered, the K1 light is on

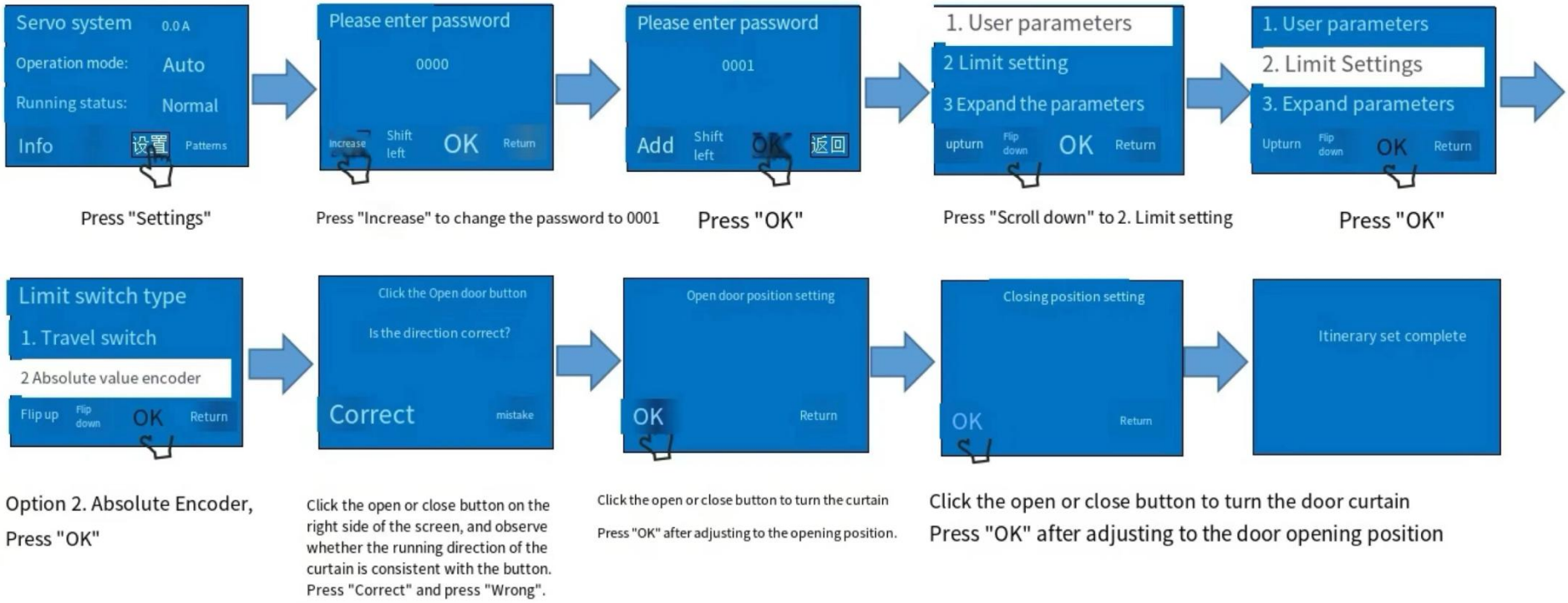
Fault resolution:

When the door cannot be closed, the display screen shows "Radar (13)":

1. The radar indicator light is constantly on, and there is a dynamic object or a fault short circuit in the sensing area;
2. The ground sensing K1 indicator light is constantly on, and there is a metal object or a fault short circuit on the detection coil.

Limit Setting

Limit setting:



Quick key setting limit (blue SA button in the lower right corner of the controller):

1. Press the SA debugging button to connect, is the direction of the jog test correct? If there is an error, replace the wiring positions of the two wires of the motor.
2. Click to the door opening position, press the emergency stop, hold down the door opening button for 2 seconds, and the door opening position setting is completed;
3. Click to the door closing position, press the emergency stop, hold down the door closing button for 2 seconds, and the door closing position setting is completed;
4. Release the SA debugging button, release the emergency stop, and the door can operate normally.

F223 FAST DOOR Setting And Interlocking

Control mode setting: Press the "Mode" button to switch between manual, automatic, and jog operation modes.

In manual and jog modes, all external sensor devices such as radar and geomagnetic devices are disabled.

All external safety protection devices are always effective in any mode.

● Speed setting: Press Settings → User parameters (password 0001) → High speed for opening/closing doors → 10-250Hz.

● Automatic door closing delay setting: Press Settings → User parameters (password 0001) → Automatic door closing delay → 0-9999.9 seconds (when 0 is selected)

Cancel delayed door closing, manual door closing is required.

● (22-23) R1 relay output action setting: Press settings → User parameters (password 0001) → Signal R1 output setting → ※

● (24-25) R2 relay output action setting: Press settings → User parameters (password 0001) → Signal R2 output setting → ※

Double door interlock (right wiring diagram)

Double door interlocking automatic door opening: The wiring is the same as that of double door interlocking, suitable for short distances in double door channels,

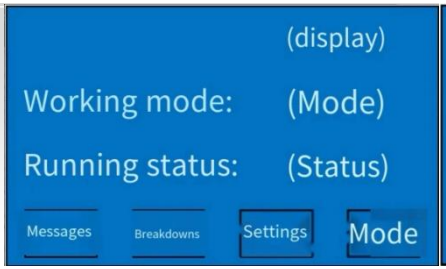
And there is no need to install a door opening sensor in the middle of the channel.

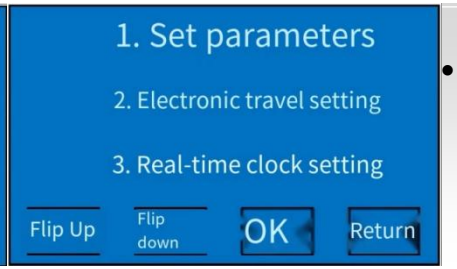
When selecting double door interlocking automatic door opening, parameters need to be set.

Press Settings → User Parameters

(Password 0001) → Signal X12 input setting → Interlocking automatic door opening

1#门	2#门
21------21	
19------20	
20------19	





※ (Signal selection)

● Leaving the closing position ● At the closing position ● Leaving the opening position ● At the opening position

● Door opening operation ● Door closing operation ● In non limit position ● In limit position

● Reached the door closing position ● Fault alarm output ● Prohibited ● Double door interlock automatic door opening

● Door in operation ● Door stopped running ● Automatic state ● Emergency stop state

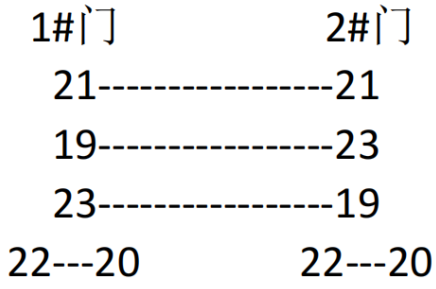
● Automatic door closing countdown ● Delayed door opening countdown

F223 FAST DOOR Setting And Interlocking

●Double door automatic mode interlocking, manual and jog modes are not interlocked

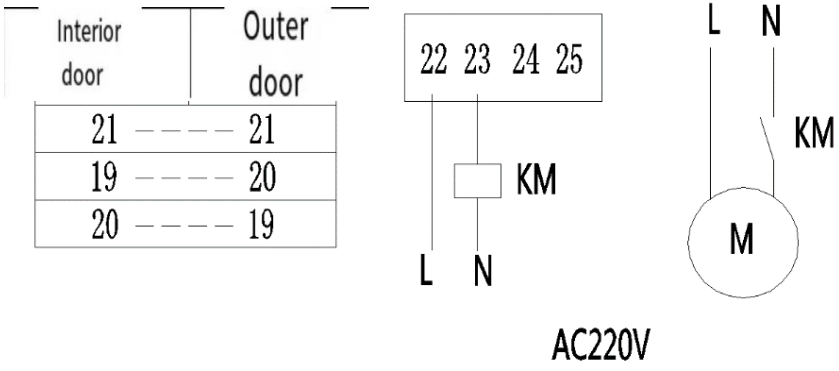
Press Settings → User Parameters (Password 0001) →

Signal R1 Output Setting → 11 Automatic Status`



● Double door interlocking automatic door opening, air shower room blowing

This function is applicable to the door of the air shower room in the clean workshop. After entering through the outer door, it is possible to close the outer door, blow air in the shower room (adjustable time), stop blowing, open the inner door, and enter the workshop. Can blow air to the shower room in single (double) direction.



F223 FAST DOOR Setting And Interlocking

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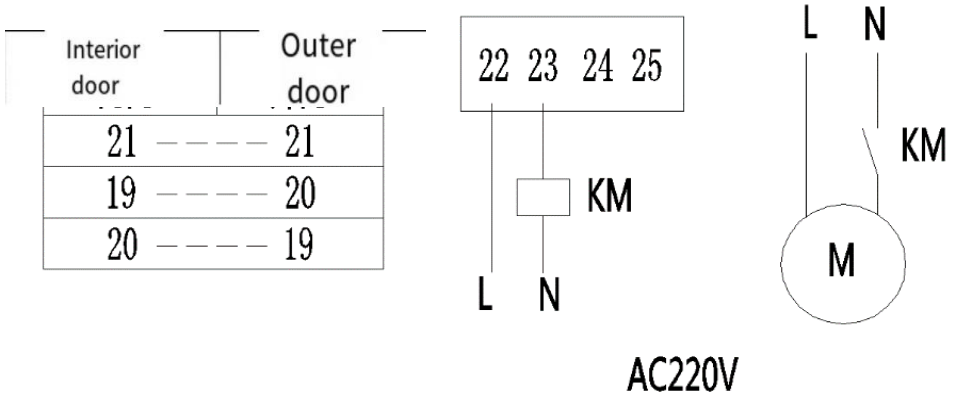


Enter the user parameters, set the output setting of signal R1 to --5: door closing and air shower output

Enter the user parameters, input signal X12 to set it as interlocking automatic door opening.

Enter the extended parameters and change the door closing air shower delay (factory value 5S) and interlock door opening delay (factory value 0S) as needed.

F223 FAST DOOR Setting And Interlocking

- Control the air curtain machine

When the door is opened, the air curtain machine works, and when the door is closed in place, the air curtain machine stops.

Add a 220V relay (contactor) as shown in the figure below. Enter the user parameters and set the signal R1 output setting to: 6

Can add the function of starting the fan first and delaying the opening of the door:

Select "Door Opening Delay" as the output setting for R1 in the user parameters, and expand the parameters accordingly

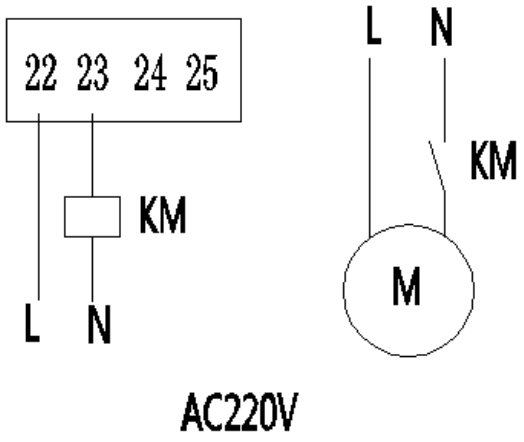
Modify the time during the delay of opening the door (wind shower) (default 5 seconds).

In the delay phase, the main screen displays "door opening delay" in operation status.

1. During the startup delay phase, disconnect the emergency stop or press the stop button to end the fan delay

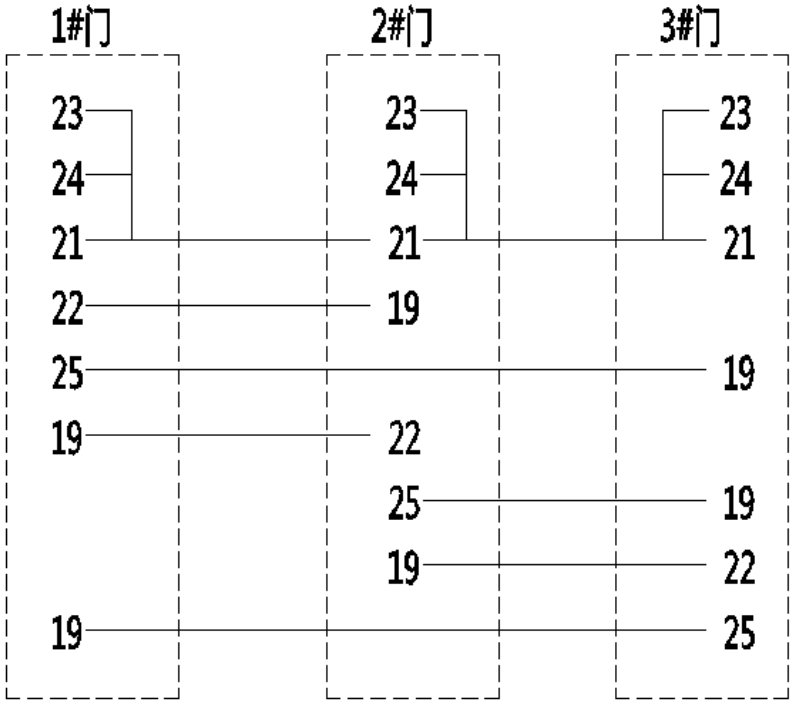
Stop output afterwards.

2. Partial door opening signals can be selected, with no delay in opening (mixed door opening requirements).



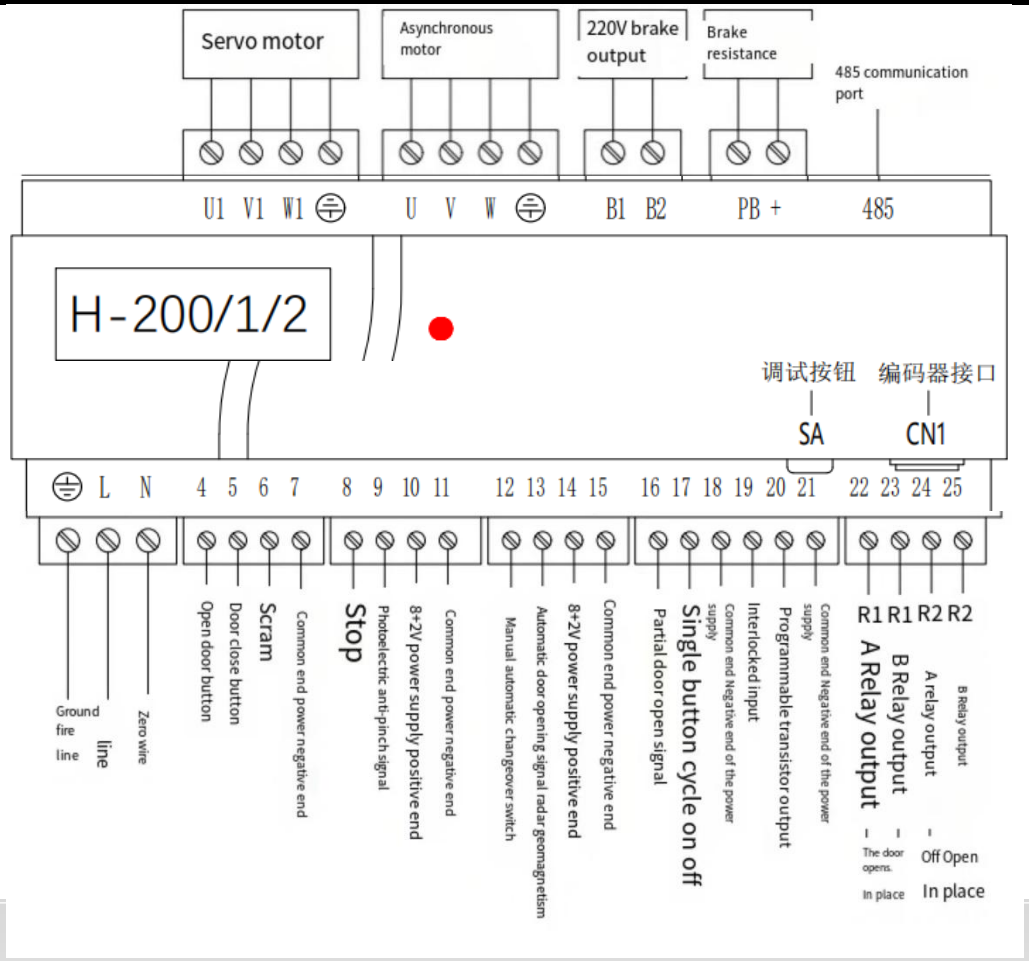
F223 FAST DOOR Setting And Interlocking

- Three door interlock



Enter the user parameters, set the signal R1 output setting to: 6, and set the signal R2 output setting to: 6

Terminal Definition



Fault code description

Fault alarm	Failure cause	Treatment method
Inverter unit U-phase protection (OUt1)	Accelerate too fast; The internal damage of the IGBT in this phase; Misoperation caused by interference; Poor connection of drive line; Is it short-circuited to the ground?	Increasing acceleration time; Replacement of controllers; Please check the drive line; Check peripherals for strong interference sources
V-phase protection of inverter unit (OUt2)		
Inverter unit W phase protection (OUt3)		
Acceleration overvoltage (OV1)	Abnormal input voltage; There is a large energy feedback; Missing brake assembly;	Check the input power supply; Check whether the load deceleration time is too short, or there is a phenomenon that the motor starts while rotating;
Deceleration overvoltage (OV2)		
Constant Velocity Overvoltage (OV3)		
Acceleration overcurrent OC1	Accelerate and decelerate too fast; The grid voltage is low; Excessive load; Load mutations or abnormalities; Short circuit to ground, output phase loss; There are strong external interference sources;	Increasing acceleration time; Check the input power supply; Select a motor controller with a large power; Check whether there is a short circuit (short circuit to the ground or short circuit between lines) or blocking of the load; Check the output wiring; Check for strong interference;
Deceleration overcurrent OC2		
Constant Velocity Overcurrent OC3		
Busbar undervoltage fault (UV)	The grid voltage is low;	Check the input power supply of the grid;
Motor overload (OL1)	The grid voltage is too low; The rated power supply of the motor is not set correctly; Motor shutdown or load abrupt change is too large	Check the grid voltage; Reset motor current rating; Check load, adjust torque lift
Controller Overload (OL2)	Accelerate too fast; Restarting the rotating motor; The grid voltage is too low; Excessive load; Small horse-drawn cart	Increasing acceleration time; Avoid shutdown and restart; Check the grid voltage; Choose a more powerful controller; Choosing the Right Motor
Output phase loss (SPO)	U, V, W phase-missing output (or load three-phase serious asymmetry)	Check the output wiring; Check motors and cables
Rectifier module overheating (OH1)	The ambient temperature is too high; Prolonged overload operation	Reducing the Ambient Temperature and Choosing the Motor Controller with One Gear Higher Power
Inverter module overheating fault (OH2)		
Encoder disconnection fault	Encoder not connected to encoder cable or bad connector	Check and replace encoder

THANKS