

Speed Gate Turnstile

User Manual



Please read and follow the installation instructions before operating the equipment, and save the instructions for future reference or for future users.

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1. Brief Introduction

The Speed gate turnstile has undergone years of R&D. The device integrates mechanical, electronic, microprocessor control and various reading and writing technologies.

The appearance of the equipment has stainless steel plate laser welding molding, beautiful and generous shape, rust-proof, durable, and external use of standard electrical interface, bar code card, ID card, IC card and other card readers can be easily integrated in the equipment, to provide civilized and orderly access for personnel, but also can eliminate illegal personnel access; In addition, the system is specially designed to meet the fire requirements of the function, in the case of emergency, to ensure that the passage unimpeded, convenient personnel timely evacuation;

2. Functional Features

- 1) With zero self-check function, convenient for users to maintain and use;
- 2) Illegal entry with alarm function;
- 3) Anti-impact function, when no signal is received, the door will automatically lock or alarm;
- 4) Infrared anti-clamping function;
- 5) It has the automatic reset function of timeout. After the pedestrian reads the valid card, if the pedestrian fails to pass within the specified time, the system will automatically cancel the pedestrian's permission to pass;
- 6) Unified standard external electrical interface, which can be connected with a variety of card readers, and can achieve remote control and management through management computer.

3. Main specification

Frame material	304 stainless steel	Input power	AC220V/110V, 50/60Hz
Working voltage	24 V DC	Drive motor	24V dc motor
Working temp.	-20°C - 75°C	Relative humidity	relative humidity ≤90%, no condensation
Opening signal	Relay dry contact signal	Communication interface	RS232
Application	Indoor	Traffic speed	35-40 people/min

4. Product Structure and Working Principle

4.1. Electronic control system of channel gate

The electronic control system consists of card reader, main control board, infrared sensor, direction indicator board, alarm, transformer, etc.

Card reader (self-provided): after reading the information on the card and judging and processing, send the application pass signal (switch signal) to the main control board.

Master control board: the control center of the system, which receives signals

from the card reader and infrared sensor, makes logical judgment and processing of these signals, and then issues execution commands to the direction indicator, motor, counter and alarm.

Infrared sensor: detect the pedestrian position and play the role of safety protection.

Direction indicator light: displays the current status of the channel and guides pedestrians to pass through the channel in a safe and orderly manner.

Alarm: when the system detects pedestrians entering the passage illegally, it will send out an alarm.

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Alarm	Name	Function
1	Entrance guard system	IC/ID card access control, fingerprint device, face recognition, QR code device, gate opening signal on the control board of gate machine, remote control, button to open the door (optional)
2	Control board	The control center of the system, which receives signals from the card reader and infrared sensor, and makes logical judgment and processing of these signals, and then sends out execution commands to the direction indicator, motor, counter and alarm.
3	Infrared sensor	Detect the position of pedestrians and safety protection
4	Direction indicator	Display the current traffic sign status of the gate and guide pedestrians through the gate
5	Alarm (speaker)	When the system detects a pedestrian illegally entering the passageway, it gives an alarm.
6	Motor	Drive the mechanism
7	power supply Switch	Control panel power supply

4.2. Operating principle of the system

- A).** Turn on the power and the system will enter the working state after 3 seconds.
- B).** When the card reader reads an effective card, the peal speaker will make a pleasant sound to remind the pedestrian that the card is read successfully. At the same time, it will judge and process the information read from the card and send an application signal to the main control board.
- C).** The main control board receives the signal from the card reader and infrared sensor, and after comprehensive processing, sends an effective control signal to the direction indicator and the motor, so that the direction indicator sign turns into a green arrow pass sign. At the same time, the brake sends a setting voice, the main control board controls the motor operation, and the gate opens to allow pedestrians to pass.
- D).** after the pedestrian passes through the channel according to the direction indicator sign, the infrared sensor senses the whole process of the pedestrian passing through the channel and continuously sends signals to the main control board until the pedestrian has passed through the channel completely;
- E).** If the pedestrian forgets to read the card or reads the invalid card to enter the channel, the system will forbid the pedestrian to pass, and will issue a voice alarm, until the pedestrian exits the channel, the alarm will be lifted; Reread valid chi-square allowed pass.

5. Equipment Installation

Attention: During installation and construction, relevant circuits should be disconnected to ensure that all circuits are correct before energizing.

5.1. Equipment installation instructions

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1. Prepare the equipment installation tools and check the accessories according to the packing list.
2. After finishing the foundation surface of the installation equipment, arrange the equipment well.
3. After the hole location is determined, drill the hole and embed the anchor bolt or expansion bolt of M12.

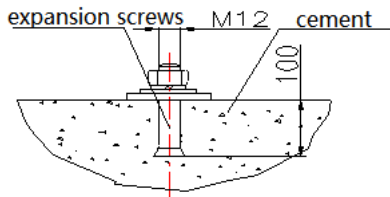
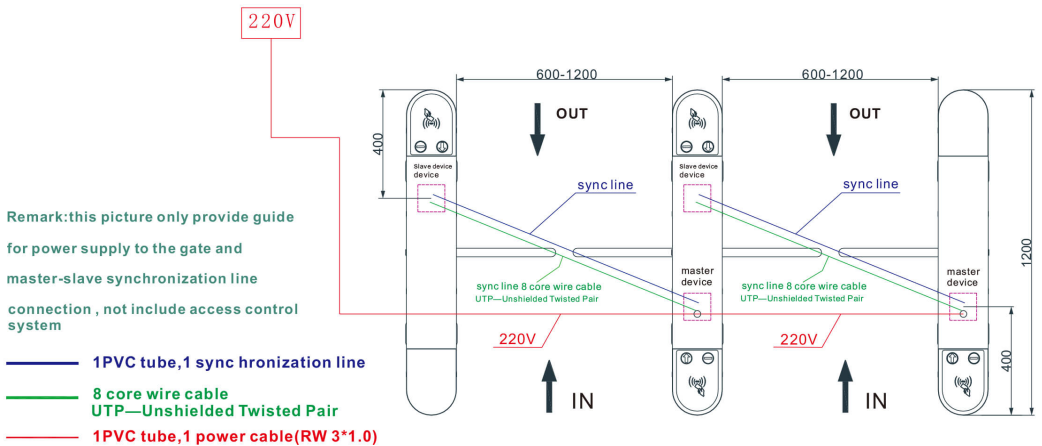


Diagram of foundation installation



Remark: this picture only provide guide for power supply to the gate and master-slave synchronization line connection , not include access control system

- 1PVC tube, 1 sync hronization line
- 8 core wire cable UTP—Unshielded Twisted Pair
- 1PVC tube, 1 power cable(RW 3*1.0)

4. Put the strong electric cable and weak electric cable through 3/4 "PVC pipe and bury them in cement to the corresponding position.
5. Open the case door, select one of the equipment as the reference (it is better to choose the middle one as the reference), align the bolt hole of the machine seat with the corresponding anchor bolt, and tighten the nut first.
6. Refer to the wiring diagram, connect the power line and control line well, and connect the system ground wire protection.
7. After check, if the equipment status is normal, the following function debugging can be carried out.
8. Check the mains wiring according to the wiring diagram, check the power wiring and other wiring of the whole equipment is correct, the debugging can be done after confirmation.

6. Equipment function debugging

6.1 Key description

Long press "menu" for 3 seconds -- to enter the L-series, press "up" enter L-2...

Press "ok" again to enter the H-series, press up or down to make adjustment, press "menu key" to return and save, and press "ok" to exit the setting option.

Long press "menu key" for 3 seconds -- enter l-1 and press "down key" plus value d-2...

Press "ok" again to enter the h-series adjustment value "up key - plus value" "down key - minus value", press "menu key" to return and save, and press "ok" to exit the setting option

6.2 Function parameter setting

< L-1 > Opening time of entrance and exit (default 6 seconds)

Setting the opening time of swinging door after swiping card authorization.

< L-2 > Set working method

0: swipe card from left & right

1: left infrared sensor, right swipe the card

2: right infrared sensor, left swipe the card

3: infrared sensor left and right

< L-3 > Delay closing time

Set closing time after pedestrian pass the channel (default: 0.2s), can be set from 0-50s

< L-4 > Left pass voice speaker

Default: 1: Welcome

Voice speaker number code from 0 to 18

For example: 0: Welcome, 1: Welcome back

< L-5 > Right pass voice speaker

Default: 15: Safe Travel

Voice speaker number code from 0 to 18

For example: 0: welcome, 1: Welcome back

< L-6 > infrared stack time (second)

Set the time setting for sensing multiple infrared simultaneously (default 3/ s)

< **L-7** > opening direction when power off

After setting the gate opening direction when power off

Default: 0 to the left, according to the site

0: open to the left

1: open to the right

< **L-8** > trespassing alarm

Default: 0: trespassing, please swipe the card

1: ticking sound

< **L-9** > Entrance and exit memory function, continuous swipe card

Set up group ticket, continuous swipe mode

default: 0: without memory function

0: without memory function, 1: with memory function

< **L-10** > Infrared anti-pinch

Set when pedestrians and other circumstances touch off the anti-clip infrared, swing door will close or not (default: 1 means: close)

0 represents: open, 1 represents: close

< **L-11** > Infrared sensor quantity

Default: 0:4 pairs,

0: 4 pairs 1: 6pairs

< **L-12** > speaker volume

Set the speaker volume, (value: 0-15), 0 is min volume, 15 is max volume.

Default: 15

< **L-13** > voice message test

After entering the voice test, the gate will automatically broadcast all the voices to

make sure the entire voice messages are normal and convenient for users to quickly understand which voice options are included. For example: exit the voice test mode, please press the "OK" key on the motherboard.

< L-14 > aging test

After entering the aging mode, the gate will automatically open and close the door and enter the aging mode.

Such as: exit aging mode, please press the menu key.

< L-15 > Main motor type selection

Select the corresponding value according to different brands of motors, the default value is 1, do not change at will.

< L-16 > Main motor type selection

Select the corresponding value according to different brands of motors, the default value is 1, do not change at will.

< L-17 > Reverse entry gate setting

0 means no close, 1 means close, and default value 0, do not change at will.

< D-1 > Zero setting of closing position

When pedestrian gate close, the channel is not aligned, nor in the middle position. You can adjust the channel position by enter the parameter setting according to the voice prompt to manually move the pendulum door to the desired position, press "ok" to save.

< D-2 > left open position setting

When the gate open not in desired position, you can adjust the channel position by enter the parameter setting according to the voice prompt to manually move the pendulum door toward the left direction to the desired position, press ok to save

< D-3 > right open position setting

When the gate does not open in desired position, You can adjust the channel position by enter the parameter setting according to the voice prompt to manually move the pendulum door toward the right direction to the desired position, press ok to save

< D-4 > Open speed setting

Set open speed, value from 1-10, 1 is the fastest speed, 10 is slowest speed.

< D-5 > Gate type

Set type: swing gate / flap gate, (0: swing gate, 1: flap gate). This parameter is set as factory default. Do not change

< D-6 > The clutch

According to the corresponding drive Settings of brake configuration, "0 is no clutch, 1: clutch" this parameter is set according to the factory default. Do not change.

keep closing, default setting is 0. »

0: Hit the pedestrian then bounce back then keep open
1: hit the pedestrian, stop for seconds, and then keep open

< D-8 > Counter strength (master)

When the swinging door is in the closed non-working state, the reverse force can be adjusted when the swinging door is forced open by the external force. The larger the value, the greater the force (value 1-20), default: 14

< D-9 > Reset time

Setting the time interval between swiping card 《value 0.1- 10》 default: 0.1

< D-10 > Buffer strength from gate closing (master)

The buffer strength is adjusted, the larger the value, the faster the closing speed

and the greater the vibration. The smaller the value, the slower and more stable the closing speed. Value 50-150 default value: 35

< D-11 > Motor strength (master)

Motor strength setting, the larger the value is, the greater gate closing strength and the greater the vibration. Value : 1-100, default is 40.

< D-12 > Buffer strength from gate closing (slave)

The buffer strength is adjusted, the larger the value, the faster the closing speed and the greater the vibration. The smaller the value, the slower and more stable the closing speed. Value 50-150 default value: 35

< D-13 > Motor strength (slave)

Motor strength setting, the larger the value is, the greater gate closing strength and the greater the vibration. Value : 1-100, default is 40.

< D-14 > Power supply

Adjust the power of the main board power "value 1-10" default value: 6
Do not change it at will.

< D-15 > Speed to find zero position

After the gate connected to power, the speed to find the zero speed, the bigger the value is, the faster the speed, the value is 1-10, default is 5, don't change it at will

< D-17 > physical pinch sensitivity

The sensitivity setting when the gate hit pedestrian or in the face of obstacle, the smaller the value is , the higher sensitivity . Note: this setting only be effective when the Resistance rebound Mode is set. Value: 1-99, default is 75.

< D-18 > Physical clamping current time

The sensitivity setting when the gate hit pedestrian or in the face of obstacle, the smaller the value is , the higher sensitivity . Note: this setting only be effective when D17 was set . Values 1-99 default value: 10

< D-19 > KP

Set motor parameters "value 1-999" default value: 160 do not change at will

< D-20 > KI

Set the motor parameter "value 1-200" default value: 0 do not change at will

< D-23 > Physical clamping reaction time

This adjustment needs to contact the manufacturer's technical staff "value 1-100" default value: 0 do not change at will.

< D-26 > counter strength (slave)

When the swinging door is in the closed non-working state, the reverse force can be adjusted when the swinging door is forced open by the external force. The larger the value, the greater the force (value 1-20), default: 14

6.3 Main board wiring instructions

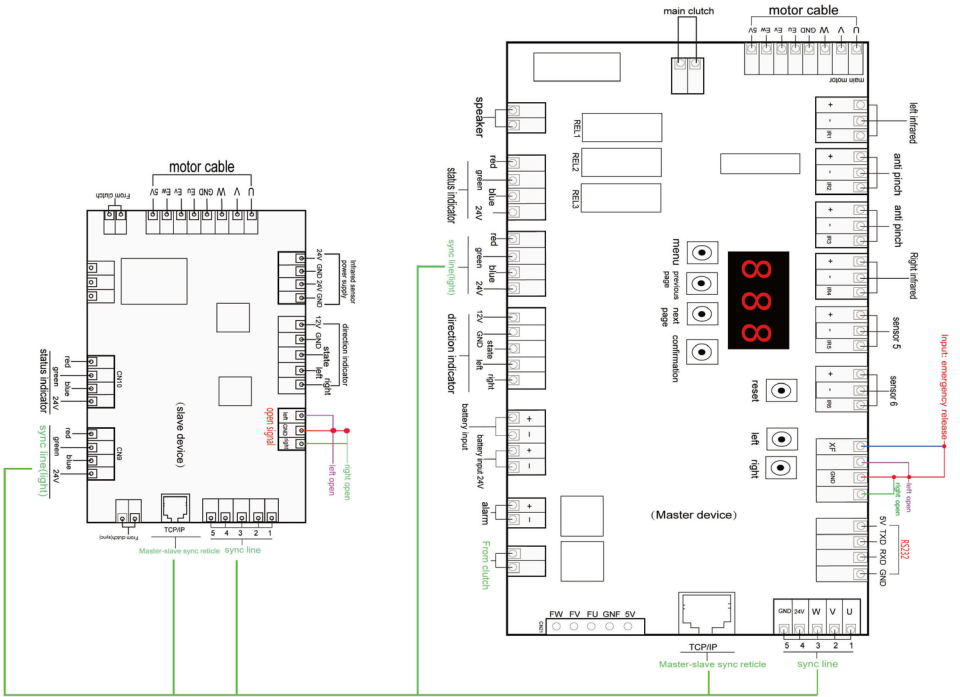
Motor wiring (yellow, blue, green wire motor)

Motor	Name	Color	PCB screen print
Motor phase	U	yellow(thick)	U
	V	green(thick)	V
	W	blue(thick)	W
Motor Hall	GND	black(thin)	GND
	Hu	yellow(thin)	EU
	Hv	green(thin)	EV
	Hw	blue(thin)	EW
	5V+	red(thin)	5V

Motor wiring (white, blue and green)

Motor	Name	Color	PCB screen print
Motor phase	W	white(thick)	U
	U	blue(thick)	V
	V	green(thick)	W
Motor hall	GND	black(thin)	GND
	Hu	white(thin)	EU
	Hv	blue(thin)	EV
	Hw	green(thin)	EW
	5V+	red(thin)	5V

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7. Common fault handling

7.1. After swipe a card or Face recognition, the gate won't open or none react.

Check the open signal wire connection was right or loose, manually press the motherboard button or short connection to see whether it will open. If manual operation won't work, disconnect the power and reboot, the motor works, then need to replace the main board.

7.2. The gate keep opening and closing

Adjust D-23 to 50

7.3. Power off and reboot, the master gate stay open.

To recheck whether the synchronization line is connected well, you can unplug the terminal to reconnect, check and test whether synchronous communication network line is normal, if the normal side of the network line needs to replace the motherboard.

7.4. After swipe a card, master gate open, slave gate won't open

1) Check if the entire infrared sensors are working, when there is no pedestrian in the channel, the indication light of infrared sensor in the master gate is off, it means the infrared sensor is normal, if the light is on, it means the infrared is in failure or not in alignment.

- 2) Cut the power supply, and reboot, see if the master and slave motor can work normally, if not, replace the main board, if still not work, replace the motor.

7.5. Swing arm is out of sync when opening or closing the door after swiping the card

Adjust D-10 and D-12, which arm is slower, increase the value

7.6. Swing arm hits the gate frame

- 1) check the swing arm loose or not
- 2) manual reset the left open position, right open position and closing position.
- 3) check if any parts is loose in the motor and drive system, If above all are normal, it needs to replace the drive.

7.7. When E-1 or E-2 appears in digital tube of main board

SetL-15, L-16 value to 1

8. Customer service

We are very happy to help you in the future when you encounter problems or product defects, if the use or operation is not clear, please timely contact the after-sales service staff.

Warranty Card

(Warranty: 3 years)

Order Date:	Product Name:	Product Model:
Customer Country:	Company Name:	Email:
Fault descriptions with photo/video:		