Operating Instructions

Swing gate turnstile

Version V2

Statement

Respected customer:

Thank you for choosing flap barrier and swing gate,This is a product with high technology, so please read this manual carefully before operation.

Please keep this manual for future reference.

Only trained professionals who understand electric and mechanical risk of product are qualified to install and operate gate system so as to avoid unnecessary dangers caused by misoperation.

All rights to improve and perfect our products are reserved. We can’t promise this manual is in full accord with the product you receive, but we will check and revise the manual at regular interval. No further notification will be sent in the case of any modifications to the manual.

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1 Swing gate Introduction

1.1 Brief Introduction

Swing gate turnstile is a kind of 2-way speed access control equipment designed for places with security requirements.The swing barrier gate uses the authorized mode to control the entry and exit of the pedestrian. It can be used for unsupervised passage management.Combining swayed door wing,simple and fashion style, the swing barrier gate is the best choice for access control of modern building.

Swing gate turnstile series are fully applicable to a high traffic flow places like school, station, airport,subway ,office building, and other places.

1.2 Product structure and principle

The structure of the product is mainly composed of mechanical system and electric control system.

The mechanical system is composed of cabinet and core mechanism. The cabinet is equipped with indicator, infrared sensor and other device.

The core mechanism is composed of motor, position sensor, transmission, shaft.

The electric control system consists of access control system, control board, infrared sensor, indicator, encoder, motor, Clutch,power supply,and so on.

NO	Name	Function
1	Access control device	IC/ID card access control, fingerprint, face recognition, code reader, Access control device send delay signal to the turnstile board door signal（mach）
2	Control board	The control center of the system, when receiving Access control device delay signal, it control motor running so that the gate opened, the direction indicator light turns green, while receiving core position sensor, infrared sensor, and judging and processing logic of these signals, keep the gate components of intelligent coordination work.
3	Infrared sensor	Detect the passage of people in the lane, Anti pinch
4	Indicator	Display the current channel status
5	Encoder	It controls the rotation position of the barrier
6	Motor	Drive the barrrier moving
7	Clutch	Lock barrier when force in

8	Power Supply	power supply to control board

System Operation Principle

1) Turn on the power, 3 seconds later; the system enters into work mode;

2) After swipe legal card or code and fingerprint ,Access control device send opening signal to main board.

3) The control board receives open signal,control indicator to green, motor acts to open the barrier.

4) After the passenger passing through the passage in accordance with the direction indicator mark, the infrared sensor detects the complete process of the passenger passing through the passage, and issues signal continuously to the main controller board, until the passenger passes through the passage completely.

5) After the passenger passes through the passage completely, the main controller board delivers a signal to the counter, which will increase 1 automatically, ending the passing process.

6) If the passenger forgets to swipe card when go into the passage, sound/light alarm signal will be given from main board. The alarm signal will not be cancelled until the passenger retreats from the passage and the passing is only allowed after reading again the effective card..

1.3 Function Features

- Varied pass mode can be chosen flexibly
- Standard signal input port, can be connected with most of the access control board, fingerprint device and scanner other equipment.
- The turnstile has automatic reset function, if people swipe the authorized card, but don’t pass through within the settled time, it need to swipe card again for entry;
- Card-reading Recording function: single-directional or bi-directional access can be set by the users
- Automatic opening after emergency fire signal input
- Pinch protection
- Anti-tailgating control technology
- Automatic detection, diagnosis and alarm, sound and light alarm, including trespassing alarm, anti-pinch alarm and anti-tailgating alarm.
- highlight LED indicator , displaying passing status.
- When power off, the gate barrier is free, passenger can pass freely
- Barrier automatic lock in forced push and automatic reset function
- Self diagnostic and alarm function for convenient maintenance and use。

1.4 Technical parameters

Basic Parameters		
1	Lane Width	≦600mm
2	Housing Material	304 Stainless Steel
3	Lane Width	≦600mm
4	External Power	AC 220V 50HZ
5	Work voltage/power	DC 24V / 150W
6	Opening response time	≦0.3s
7	Control Signal	Dry contact signal
8	Communication	RS485
9	Pass rate	25-30 person/min
10	Fire /Emergency Alarm/	Gate open, free for passing
11	Working Temperature	-20℃~+70℃

2 Equipment Installation

2.1 Installation notes

- Please read this manual carefull before install it;
- The gates must be correctly arranged in order, and the left and right gates of eachlane should be aligned;
- If the equipment is used outdoors, equipment should be installed at the establishment of 100-200mm high cement platform, so as to prevent moisture, and install ceilings and other sunscreen, rain protection facilities;
- Protective earth wire must be connected;
- Please confirm the wire of connect vice machine to master master is straight through;
- Please check all wires has been properly connected before power on;
- Please test all function befor using;

2.2 Equipment Installation

1)Tool preparations

1	A set of hexagon spanner	5	Screw driver and other common wiring tool
2	Cross screwdriver 6mm	6	Millimeter

3	Open spanner 17-19mm	7	M12x100 Expansion screws 8pcs
4	Impact drill(including D16 and D14 drills)	8	Cable Tester

2)Ensure the installation location and the system composition ,prepare to install after carrying out the system planning;

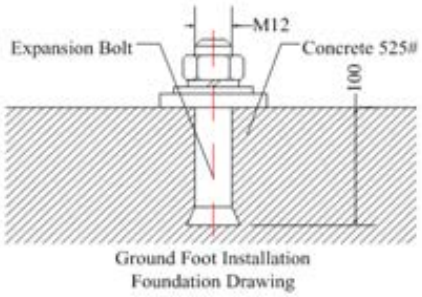
3)Make well of installation of equipment foundation base.

4)Put the turnstile in order and alignment .We have mark on the turnstile for the multichannel, please install the turnstile in order, such as A1-A2-A3-A4 on one side a1-a2-a3-a4 on the other side.

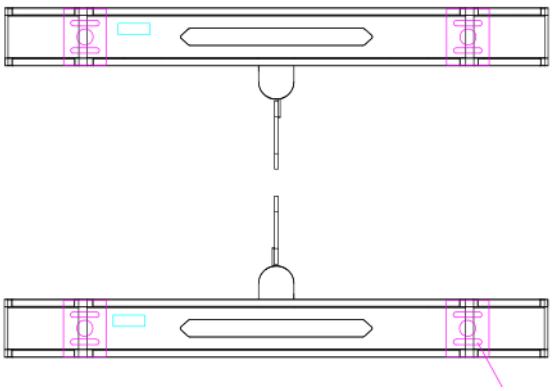
5) Mark the fixing position of expansion bolts according to fixing plate on the bottom of each turnstile.

6)Move turnstile and drill hole by impact drill,fix Expansion screws

7)Tighten the expansion screw after the functional test is completed



Ground Foot Installation
Foundation Drawing



8）Comfirm the lane lines, dig line pipe diameter into the appropriate PVC line pipe, each lane will AC220V power line RVV3*1.5mm and 1PCS Eight core wires for connect main maichine , 1 pcs network cable for access control system (if install other control system according to the actual situation of laying related field the wire)

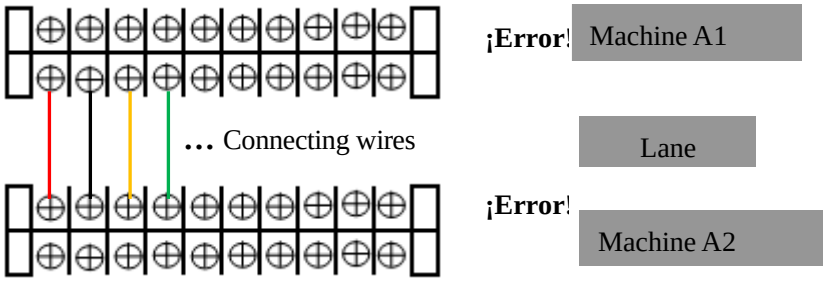
9) Move each machine to the corresponding mounting position and point to the expansion bolt position；

10）All lane are completed debugging and function test, then tighten the nut.

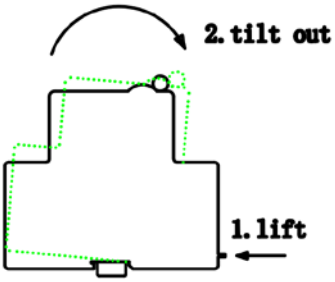
2.3 Connection wires

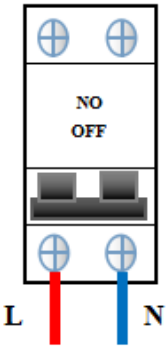
1）Connect Cable between the master and the vice machine

One lane be control by one control board，Use 1PCS Eight core wires cable connect the vice machine to master machine （the same lane the same sign，such as 1--1，2--2，3--3，)please connect the related line according the mark.



2)Connecting wire of AC220V power input





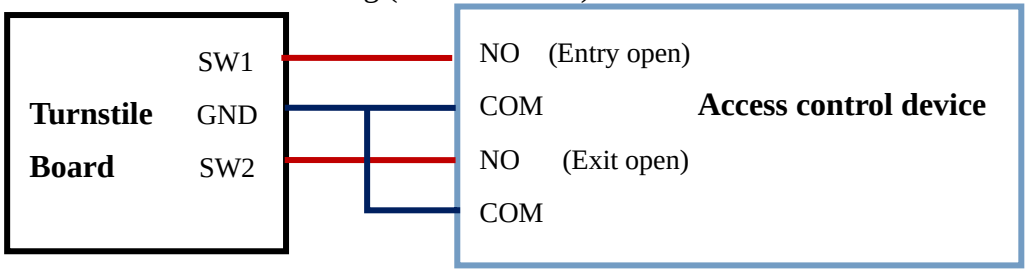
AC100-220v Input connecting wires

3)Access control device installation

Reader installation(customer offer)

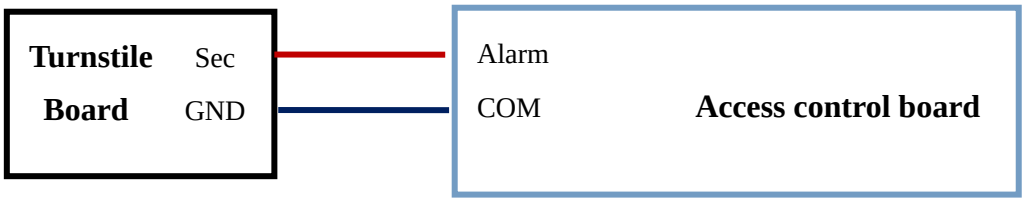
Open the cover of the case and fix the reader on the back of black acrylic.

Access control device connecting (customer offer)



Attention：The relay time of access control device must be set to 0-1 seconds.

4)Fire signal connecting



2.4 Debugging instruction

1）Check wire：Check whether the connection wire of the gate and the power line are properly connected before power on. If there is any abnormality on the power supply process, check the connection wires firstly;

2）Function test：After power on the machine will open- close, and open -close, this process is machine self-check, after the sound from buzzer means finish self-check. Don’t stand in the lane in the process of self-check;

3）The control board will give alarm if stand in the lane without swipe card ;if no response when infrared sensor be block, please check if the infrared sensors are aligned，Under normal circumstances, the led of receive sensor is no bright when no blocked .If the red led of receive sensor is always bright ,that means the sensors no shoot well ,please adjust to aligned.

4)The relay time of access control device must be set to 0-1 seconds.

5)If pull barrier of gate it will lock by clutch when without swiping card.

5)When the valid card is swiped, the indicator light turn green，If the indicator indicates incorrect or turn off and alarm immediately when go into first sensor, This means that the signal connection is opposite, exchange the open signal connect terminal of SW1 Gnd to SW2 Gnd .

6)Check and test carefully, running smoothly, no abnormal condition, no impact sound, etc; Confirm motor is no idle; the indicator light is correct and the infrared pinch function is normal before putting into use.

2.5 Notice of use

- If it tests well before installation, then fixed it; before you install and maintain it, please cut off the power;
- The product must be earthed, and an earth leakage breaker is necessary on the power supply;
- The depth of buried PVC tube should be greater than 60mm, and the exposed height above the ground should be greater than 50mm. The exit mouth should be bending back to avoid water dipping inside the tube;
- Don’t change the inside wire of the turnstile casually;
- Please don’t open the turnstile when it is under the working status;
- In installation, please make each door of the lane are in alignment;
- If you use the turnstile outdoor, it need to add a 100-200mm cement platform for the turnstile to do damp proof, also need to add a canopy to protect the turnstile from sun and rain;

- ❖ Please keep the control button or remote control far away from the children;
- ❖ Please don’t use the turnstile under the thunder and lightning condition to get rid of damage to the equipment.

3 Board and parameter instruction

3. 1 Electric control system instructions

1.Electric control system is mainly composed of turnstile control board, infrared sensor, indicator,encoder, clutch ,motor, access device .

2. Control board: As a control center of the turnstile

3. Infrared sensor: It detects the location of the passenger, and plays a safe protection role. The sensors at the both terminals of the passage determine the location of the passenger, and the medium sensor mainly works as safe protection;

5. Motor : Rotating device

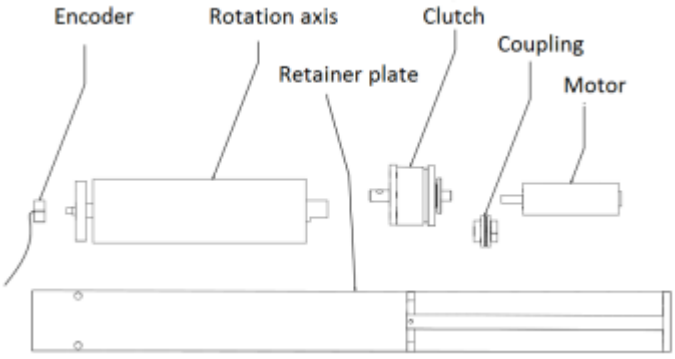
6. Indicator: It indicates the present status of passage, and guides the passenger to pass the passage orderly and safely;

7.Encoder: It controls the rotation position of the barrier;

8.Clutch:Lock barrier when force in.

9.Access device:Judge whether person has authority and send open signal to turnstile control board.

3.2 Mechanism instruction



Encoder: It controls the rotation position of the barrier;

Rotation axis:Fix and driven the barrier, with the barrier rotation;

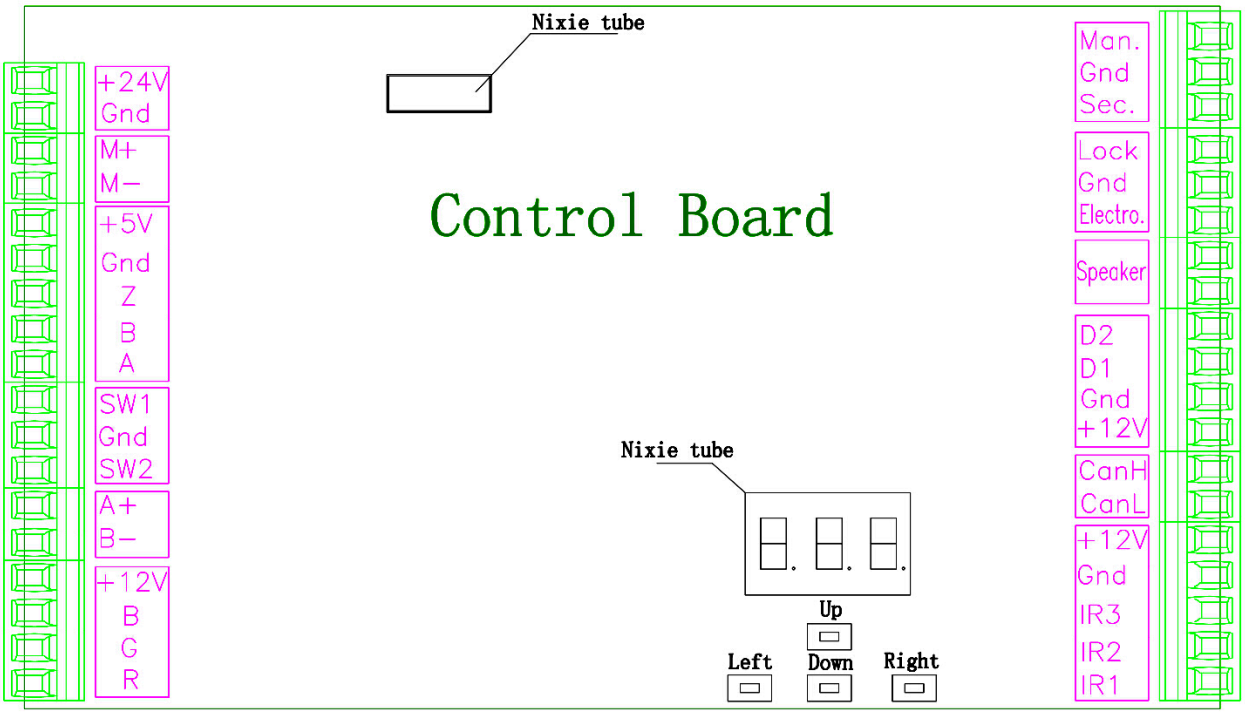
Retainer plate: Fix the unit of mechanism

Clutch:Lock barrier when force in.

Coupling:Ensure the concentricity of the shaft

Motor : Rotating device

3.3 Turnstile control board instruction

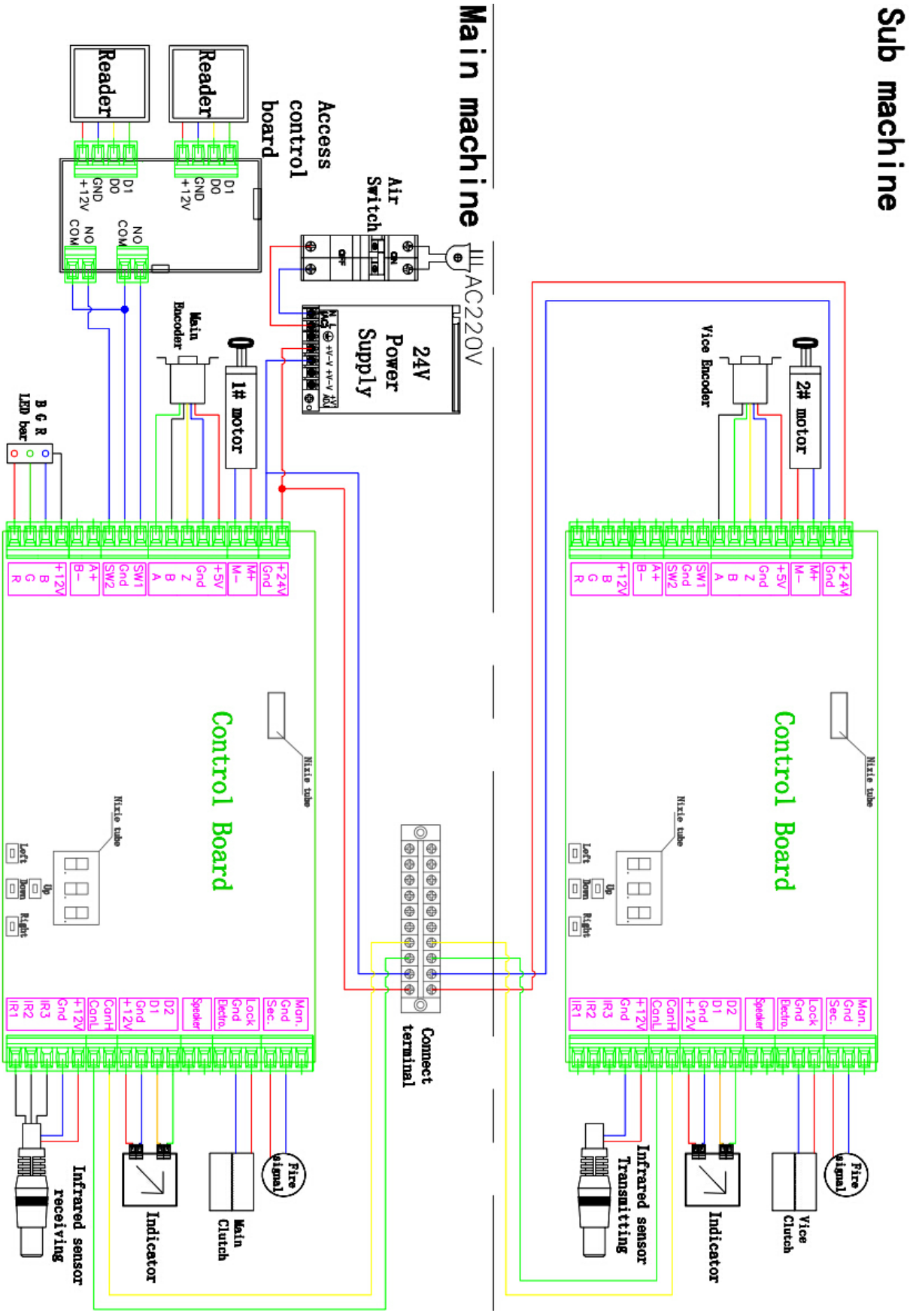


Turnstile control board

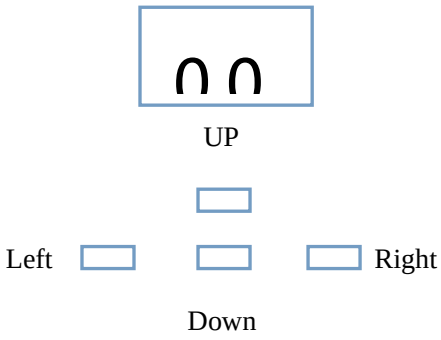
Position	The instruction of ports			Remark
(1) DC 24V Input	1	+24V	POWER INPUT 1	Connect DC24V power
	2	GND		
(2) 24V Motor output	3	M+	BATTERY INPUT	Connect motor Output 24V DC for Motor
	4	M-		
(3)Encoder	5	+5V	5V output for encoder	Connect encoder
	6	GND		
	7	Z	Encoder signal input	
	8	B		
	9	A		
(4)Entry and Exit opening signal	10	SW1	Entry and Exit opening signal input	Connect access device SW1/SW2----NO GND---COM
	11	GND		
	12	SW2		
(5) 485 communication	13	H:485 A+	485 communication	Connect PC
	14	H:B-		
(6) RGB LED indicator	15	12+	12V for LED indicator	Connect LED indicator
	16	B	LED blue negative	
	17	G	LED green negative	
	18	R	LED red negative	
(7)Infrared sensors signal	19	IR1	Entry infrared sensor signal	Connect sensors
	20	IR2	Middle sensor for anti-pinch signal	
	21	IR3	Exit infrared sensor signal	

	22	+12V	12V for infrared senor	
	23	GND		
(8) Can communication	24	CanL	Connect lane	master and vice machine connect
	25	CanH		
(9) Indicator	26	+12V	12V for indicator 2	Connect indicator 1
	27	GND		
	28	D1	Entry and Exit Green Direction	
	29	D2		
(10)Speaker	30			Default without voice module
	31			
(12) Cluth	32	Electr		Connect clutch
	33	GND		
	34	Lock		
(13) Fire alarm input	35	Sec		Connect fire alarm
	36	GND		
Button NC open	37	Man		Conncet button to keep open

3.4Wiring diagram



3.5 The instruction of Parameters system setting



1. Description

Four buttons: up and down for switch, right for sub-menu, left for previous menu.

2.Menu setting

Notes: Please read the following item carefully.

1Funtion button and display instruction

Power on, initialize system, which will show:“333” “222” “111” “000” finish

Power on and self test, which will show:……“J02” “J01” “J00” finish

3.Key function:

“Up”key , add “1” or show above step

“Down”key , decrease “1” or show next step

“Left”key , cancel return or move to left edit item

“Right”key, enter or move to right edit item

Normally, press right button 3 seconds, which will enter setting mode

If no action, will wait for 25 seconds, then exit.

4.Parameters code instruction

Any parameter modification operation is not recommended

//F01 Setting zero position “xxx” Encoder detected current angle 0-359

//F02 Entry open angle 0-180,Flap barrier and swing gate default angle within 0-90 ，the number is more bigger, which mean that the angle is more bigger (default 80-88)

//F03 Exit open angle 0-180,Flap barrier and swing gate default angle within 0-90 ， the number is more bigger, which mean that the angle is more bigger (default 80-88)

//F04 The buffer of entry close angle 0-120,The bigger value, The bigger buffer.

//F05 The buffer of entry close angle 0-120,The bigger value, The bigger buffer.

//F06 The lowest speed of motor 5-100

//F07 The fastest speed of motor 5-100

//F08 Pass model 1-13

1 : Normally close，use card for entry and exit (default)

2 : Normally close, free of entry and exit

3 : Normally close, forbidden of entry and exit

4 : Normally close, entry for card, exit for free

5 : Normally close, entry for card, exit for forbidden

6 : Normally close, entry for free, exit for card

7 : Normally close, entry for free, exit for forbidden

8 : Normally close, entry for forbidden, exit for free

9 : Normally close, entry for forbidden, exit for card

10: Normally open，The free for entry and exit

11: Normally open，The card for entry and exit

12: Normally open，entry for free, exit for card

13: Normally open，entry for card, exit for free

//F09 Memory pass: “0” forbidden (default), “1” allow

//F10 The max of pass time 10-255, unit 0.1s, (default 5)

//F11 Open delay 0-255, unit 0.1s, (default 0)

//F12 Close delay 0-255, unit 0.1s, (default 0)

//F13 Swipe card in lane “0” forbidden (default), “1” allow

//F14 Pass over and check position “0” exit, “1” anti-pinch

//F15 Change status, automatic alarm “0” Forbidden, “1” allow

//F16 Relay output, which use for account passenger“0” Forbidden, “1” allow

//F17 Clear accouter “0” cancer “1” clear

//F18 Number of turn-arm 2-6

//F19 Stop work, whether use clutch or not “0” No use, “1” use

//F20 Sensor infrared model “0” PNP， “1” NPN

//F21 The motor over-current protection value 0-200, unit 100mA,

//F22 Encoder resolution 0(360), 1(500), 2(512), 3(720), 4(800), 5(1000), 6(1024)，default 500

//F23 Reduction ratio, input speed 1-999

//F24 Reduction ratio, output speed 1-255

//F25 RS485 baud rate 1-9 1: 2400 2: 4800 3: 7200 4: 9600 (Default) 5: 14400 6:

19200　7: 38400　8: 57600　9: 115200 (not support)

//F26　Versions

//F27　Factory reset　“0”　cancel，　“1”　Factory reset，　“2”　absolutely reset

//F28　Save current parameters as factory default

//F93　Input test

//F94　Output test

//F95　Automatic close and open test

//F96　Slave device communication test

//F97　Device address 2-127

//F98　Device remark　“0”　No use，　“1”　The host device，　“2”The slave device

//F99　Setting device address 2-127

5.Abnormally code instruction

“EC.1”　CAN bus fault _STUFF

“EC.2”　CAN bus fault _FORM

“EC.3”　CAN bus fault _ACK

“EC.4”　CAN bus fault _BIT1

“EC.5”　CAN bus fault _BIT0

“EC.6”　CAN bus fault _CRC

“EC.7”　CAN bus fault _UNUSED

“E33”　Can not defect encoder (During self-test)

“E34”　The fault of encoder resolution(The tri-pod turnstile can detect it)

“E35”　Can not find zero position (During self-test)

“E48”　Motor 1 direction and encoder test direction is inconsistent (During self-test)

“E49”Can not test motor 1 (During self-test)(Maybe PCB Board ADC fault，please try again)

“E50”　Motor1 blocked off(over current protection)

“E51”　Motor1 can not stop(When stop, but still have current)

“E52”　Motor 1 can not arrived zero position when entry open timeout

“E53”　Motor 1 can not arrived zero position when entry close timeout

“E54”　Motor 1 can not arrived zero position when exit open timeout

“E55”　Motor 1 can not arrived zero position when exit close timeout

“E64”　Motor 2 direction and encoder test direction is inconsistent

“E65”　Can not defect motor 2

“E66” Motor2 blocked off(over current protection)

“E67” Motor2 can not stop(When stop, but still have current)

“E68” Motor2 can not arrived zero position when entry open timeout

“E69” Motor2 can not arrived zero position when entry close timeout

“E70” Motor2 can not arrived zero position when exit open timeout

“E71” Motor2 can not arrived zero position when exit close timeout

“E96” Force entrance alarm

“E97” Reserve entrance alarm

“E98” Trailing alarm

“E99” External Alarm

6.Status code instruction

“U00” Turnstile have closed(free)

“U01” Turnstile have closed (Fire)

“U02” Turnstile have closed (Power off)

“U03” Turnstile have closed (Free)

“U04” Turnstile have closed (Fire)

“U05” Turnstile have closed (Manual)

“U06” Turnstile have closed (Exit)

“U07” Turnstile have closed (Entry)

“U08” Close turnstile when entrance

“U09” Close turnstile when exit

“U10” Close turnstile when entrance

“U11” Close turnstile when exit (Have people in lane)

“U12” Open turnstile when entrance

“U13” Open turnstile when exit

“U14” Push the flap for entrance by manual

“U15” Push the flap for exit by manual

4 Solution

4.1 Trouble Shooting

Q: How to fix the swing barrier gate after testing?

A: There are reserved holes for expansion screw. There are some depression bars for installation even some of the gates have no extra space on the bottom. (Note: please use M10 OR mM12 expansion screw.)

Q: How to test swing barrier gates after unpacking?

A: Please connect the two binding posts in accordance with its direction (from top to bottom) using tether cable (0.5MM). The swing barrier gates will self-test automatically after power-on. During this process, please don’t stand in the passageway.

Q: How to confirm which side (SW1 GND or SW2 GND) the gate will open towards?

A: Make SW1 GND or SW2 GND Short circuit to check.

Q: The swing barrier gate closes immediately after only the first sensor detects the passenger, is the waiting time too short?
A:The opening signal on the left and right is reverse.

Q: Q: The gate entry by swipe card but exit free ?
A: Please change the pass model referring to parameter setting of menu F08.

Q: The barriers of gate are not back to the middle position after self-testing?
A:Please set close position by menu F01 again and make sure the encoder ,motor , Coupling is solid

Q: The swing barrier gate does not open after swiping cards?
A: Firstly, check the turnstile control board. Please give the short circuit (Auto SW1 and Auto SW2). If the gate can open normally, please check controller; if it can't open, please check whether there is a 24V output from motor.
Secondly, if the turnstile control board works normally, please check the motor whether the belt and gear are tight.

Q: The swing barrier gate is not closed completely after passengers pass through it?
A:Check the middle sensor for anti-pinch whether be blocked or not aligned.

Q: The barriers on two sides of the gate are not open or closed synchronously?

A: Set the parameter of two turnstile control board according to the situation.

F02 Entry open angle 0-180,Flap barrier and swing gate default angle within 0-90 ， the number is more bigger, which mean that the angle is more bigger

F03 Exit open angle 0-180,Flap barrier and swing gate default angle within 0-90 ， the number is more bigger, which mean that the angle is more bigger

F06 The lowest speed of motor 5-100

F07 The fastest speed of motor 5-100

Q: The swing gate keeps giving an alarm and has no reaction after swiping valid cards?
A: It may be caused by infrared be blocked or not aligned.

Q: There is a crash while opening and closing the turnstile gate?
A: Firstly,Remove barrier acrylic and the cover of mechanism ,check whether the rotation of the shaft is in contact with the object.

Q: The barrier not inaccuracy in place or have a shake when gate close ?
A: If the barrier beyond the angle when gate close, increase the buffer of entry close angle
If the barrier do not arrival position in place when gate close, reduce the buffer of entry close angle

//F04 The buffer of entry close angle 0-120,The bigger value, The bigger buffer.

//F05 The buffer of entry close angle 0-120,The bigger value, The bigger buffer.

4.2 Daily Maintenance

Swing barrier gates require regular maintenance by professionals and daily cleaning to ensure long-term stability and extended equipment life.

1. Maintenance Content:

* Keep the turnstile housing and card reader panels of turnstile gates clean;

* Fasten and lubricate the internal movement structure;

* Check the dust of the driver board and make it cleans.

* Check the connectors and wiring points to ensure the reliability of the connection.

2 Maintenance Methods:

1. Cleaning: Check the housing and card reader panels of the gate, and remove the dust and other dirt to make them clean;

2. Rust removal and Lubrication: Check the movement of the flap and swing gate, remove rust with sand paper and spread with anti-rust oil if corroded;

3. Screws fastening: Check the connection of the various moving parts, fasten the screws where they are loose to avoid causing fault for long-running;

4. Circuit board cleaning: Cut off the power, and wipe dust of the board by using a clean brush;

5. Lines Checking: Check the connecting lines and solder reinforcement if they are loose off.

Note: This product is the strong professional technical equipment. In addition to daily maintenance, please do not feel free to disassemble it. If a fault occurs while running, Please notify our service departments or the authorized service agencies promptly to have it maintained. Do not disassemble it at random to avoid damaging the internal structure or even damaging your interests because of your improper operation.

Warranty Service Statement

Guarantee Instruction

Our company products are guaranteed for one year, from date of sale, providing free maintenance based on not being damaged by any man-made.

● During the warranty period, all faults caused by the product itself can be maintained for free. Please carry the filled warranty card and the purchase invoice to the authorized service centers across the country or return the machine to our company for free repair.

● Within the period of free maintenance, faults or damages caused by man-made or natural disasters can be maintained with additional charge.

● Over the period of free maintenance, faults or damages can be maintained with additional charge.

The following conditions are not under warranty:

● Damages caused by abnormal operation, man-made or natural disasters;

● Damages after disassembling any portion of the machine (lines, components etc.) ;

● Damages caused by wrong guide of non-professional technicians;

● Damages caused by adding other functions with unauthorized modification or installation with other equipment.

Note: The warranty card and purchase invoice are used as warranty certificates to maintain the machine. Please reserve them carefully. Lose won't repair.

User Data Card

User Name		User Contact		Postcode	
User Address					
Machine Model					
Seller Unit		Seller Contact		Postcode	
Seller Address					
Sell Date					

Maintenance Records

Maintenance Date	Fault Description	Maintenance Method	Maintenance Man	Maintenance Unit Seal