



Full high turnstile

Quick Start Guide

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During the use of device, personal data will be collected, stored and processed. To protect data, the development of Hikvision devices incorporates privacy by design principles. For example, for device with facial recognition features, biometrics data is stored in your device with encryption method; for fingerprint device, only fingerprint template will be saved, which is impossible to reconstruct a fingerprint image.

As data controller, you are advised to collect, store, process and transfer data in accordance with the applicable data protection laws and regulations, including without limitation, conducting security controls to safeguard personal data, such as, implementing reasonable administrative and physical security controls, conduct periodic reviews and assessments of the effectiveness of your security controls.

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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.


FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.


FCC Conditions


This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

 This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

 2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.




Applicable Models

This manual is applicable to the models listed in the following table.

Series	Model
DS-K3H44XX	DS-K3H4420-120
	DS-K3H4410-120
	DS-K3H4421-120
	DS-K3H4411-120

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100 to 240 VAC or 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause overheating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

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Chapter 1 Product introduction

1.1 Brief introduction

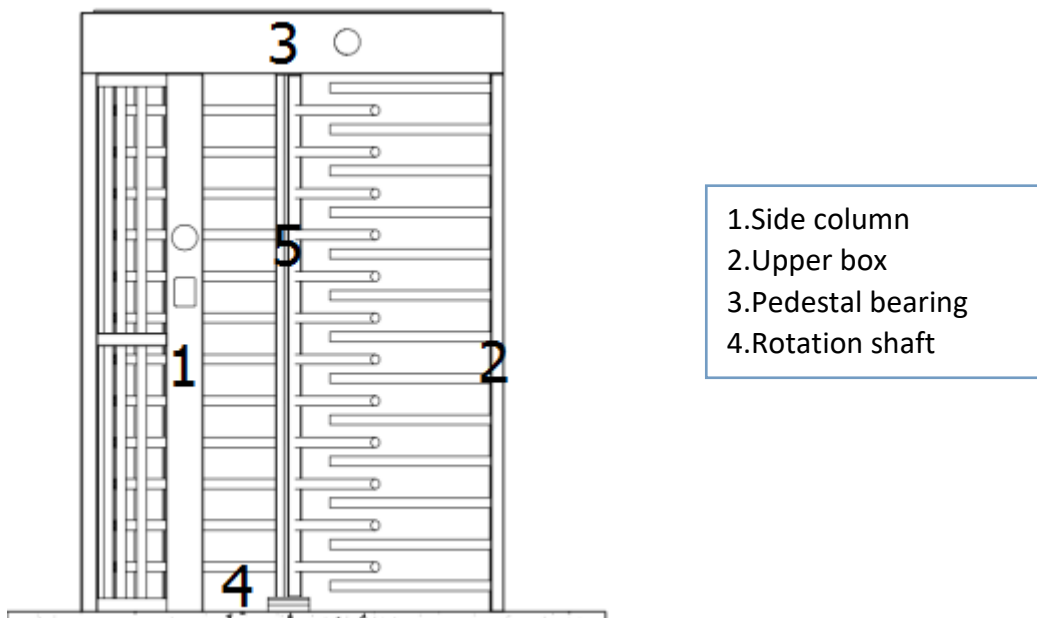
Full high turnstile is a kind of access control equipment designed for places with high class security requirements. It is easy to combine IC access control, ID access control, code reader, fingerprint, face recognition and other identification devices , It realizes the intelligent and efficient management of passage.. The turnstile is the best choice for access control of modern building.

Full high series are fully applicable to a high traffic flow places like school, factory, park, housing estate 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 upper box, side column, guardrail, rotation shaft, pedestal bearing, core.



120 degree full high turnstile

The electric control system consists of access control device, control board, direction indicator,

position sensor, solenoid, damper, power supply.

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 the access control device delay signal, it control solenoid open ,the direction indicator light turns green, The rod of rotation can be pushed to 90 degree or 120 degree ,the solenoid will lock immediately when receiving closing signal from core position sensor.
3	Indicator	Display the current channel status
4	Position sensor	Detects and controls the opening and closing position of the gate
5	solenoid	Locking shaft
7	Damper	Makes the shaft run smoothly
8	Power Supply	power supply to control board

System Operation Principle

- 1) Turn on the power, 2 seconds later; the system enters into work mode; the rod can't be turn.
- 2) After swipe legal card or code and fingerprint, Access control device send opening signal to control board.
- 3) The control board receives open signal, control indicator to green, solenoid open , The rod of rotation can be pushed to 90 degree or 120 degree.
- 4) After the passenger push rod and then rotation turn to 90 or 120 degree , the position sensor send close signal to control board, the solenoid lock immediately
- 5) Full turnstiles will lock after 5 seconds if the passenger swipe card but do not pass.

1.3 Function Features

- Damper buffer device
- 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
- Automatic opening after emergency fire signal input
- Anti following : prevent illegal passing
- High light LED indicator , displaying passing status.
- Normal open can be also controlled via external button or manual key unlock
- Gate will automatically open when power failure(connect 24V battery)

1.4 Technical parameter

Basic Parameters		
1	Input voltage	AC 220V 50HZ
2	Work voltage	DC 24V /50W
3	Housing Material	304 Stainless Steel
4	Arm rotation angle	90/120 degree
5	Lane Width	≤650mm
6	Opening response time	≤0.2s
7	Open Signal	Passive signals (relay signals, dry contact signals,)
8	Communication	RS485
9	Pass rate	25-30 person/min

10	Fire /Emergency Alarm/	Gate open, free for passing
11	Working Temperature	-20°C~+70°C
12	Working environment	Indoor and outdoor

Chapter 2 Equipment Installations

2.1 Installation notes

- Please read this manual carefully before install it;
- As for the convenience of installation and maintenance, installation space height of at least 2.6 meters;
- Make sure the whole is horizontal and the shaft is vertical;
- Protective earth wire must be connected;
- Please check all wires has been properly connected before power on;
- Please test all function before using;

2.2 Equipment Installation

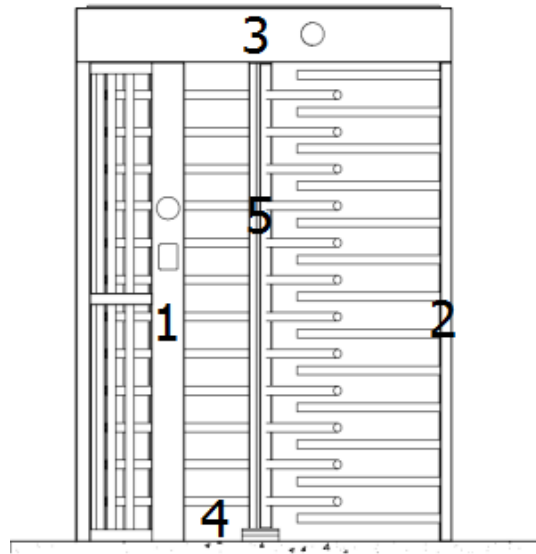
1) Tool preparations

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) Assemble the machine, refer to the picture.

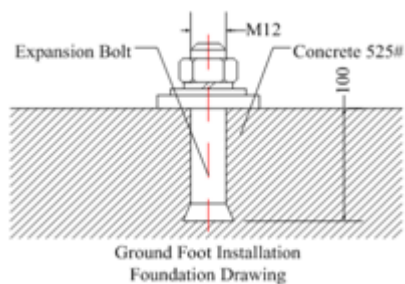


Assemble both sides of guardrail 1 part and 2 part firstly. Then place the 3 part top upper box over the 1 part and 2 part and tighten the mounting screws; lay 4 part bearing mechanism at the bottom of a rotating shaft; Install 5 part rotation, tighten the top mounting screws; Check the verticality of the shaft. Adjust and check the level and vertical of the machine.

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

6) Drill hole by impact drill, fix Expansion screws.

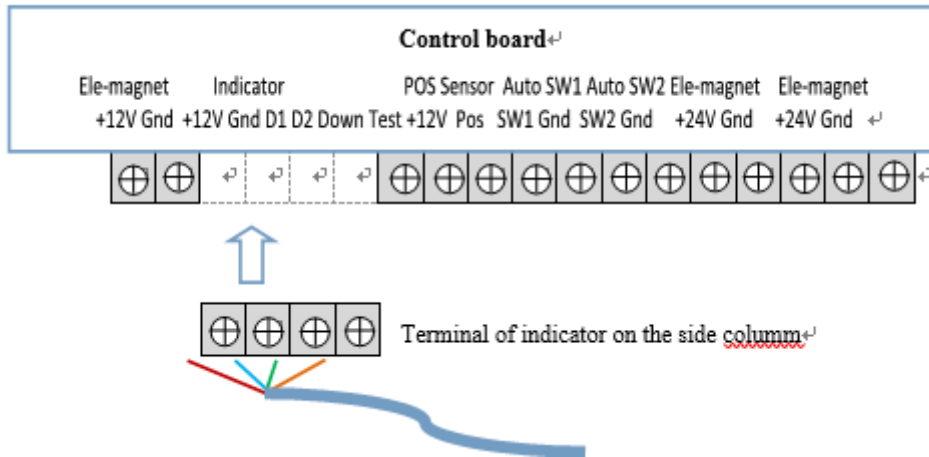
7) Tighten the expansion screw after the functional test is completed



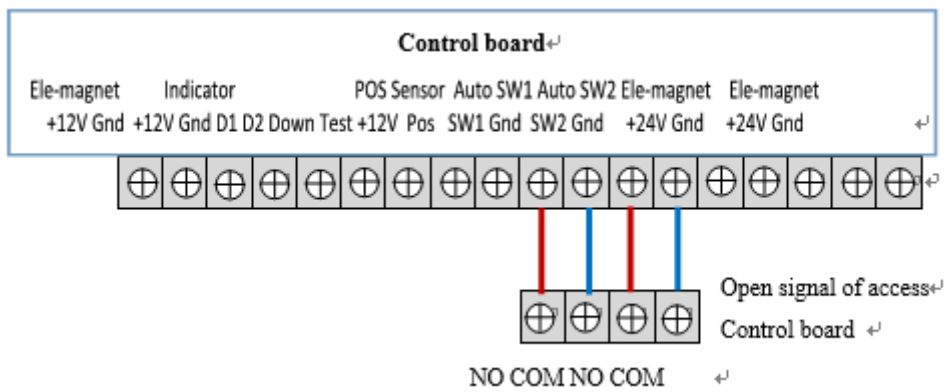
8) The card reader is installed on the column.

2.3 Connection

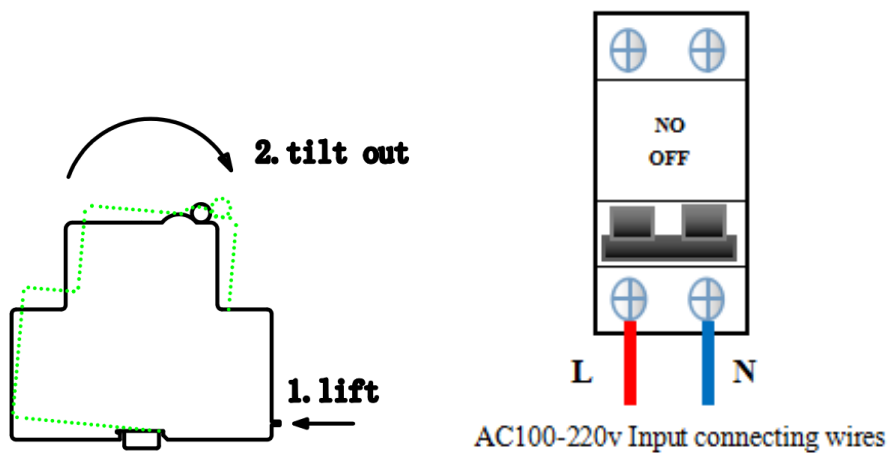
1) Connect wire of indicator



2) Connect wire of access control device



3) Connecting AC220V power input



2.4 Debugging instruction

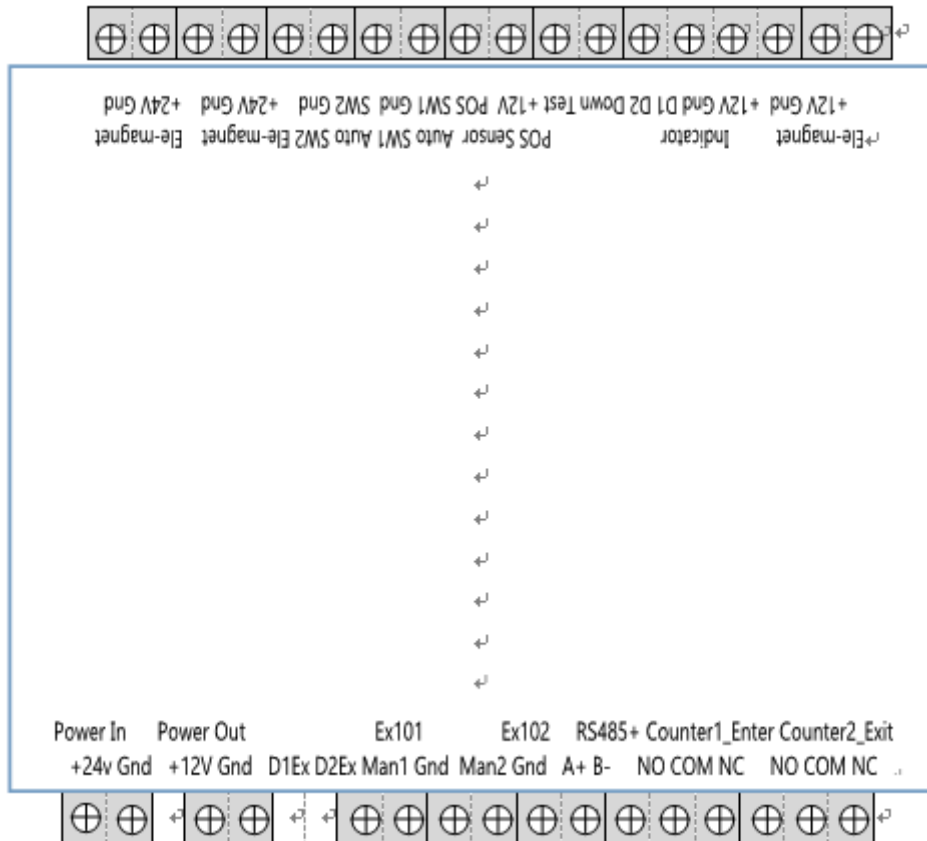
- 1) Check wire: Check whether the connection wire of the gate and the power line are properly connected before power on.
- 2) Function test:
 - Access control relay time should be set to 0 seconds or 1 second;
 - Rod can not push without swipe valid card
 - Indicator will show green and the rod of rotation can be pushed to 90 degree or 120 degree when swipe valid card.
 - If passager not go through ,turnstile will lock after 5 seconds

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;
- Follow the order and pass one by one
- 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.

Chapter 3 Board and parameter instruction

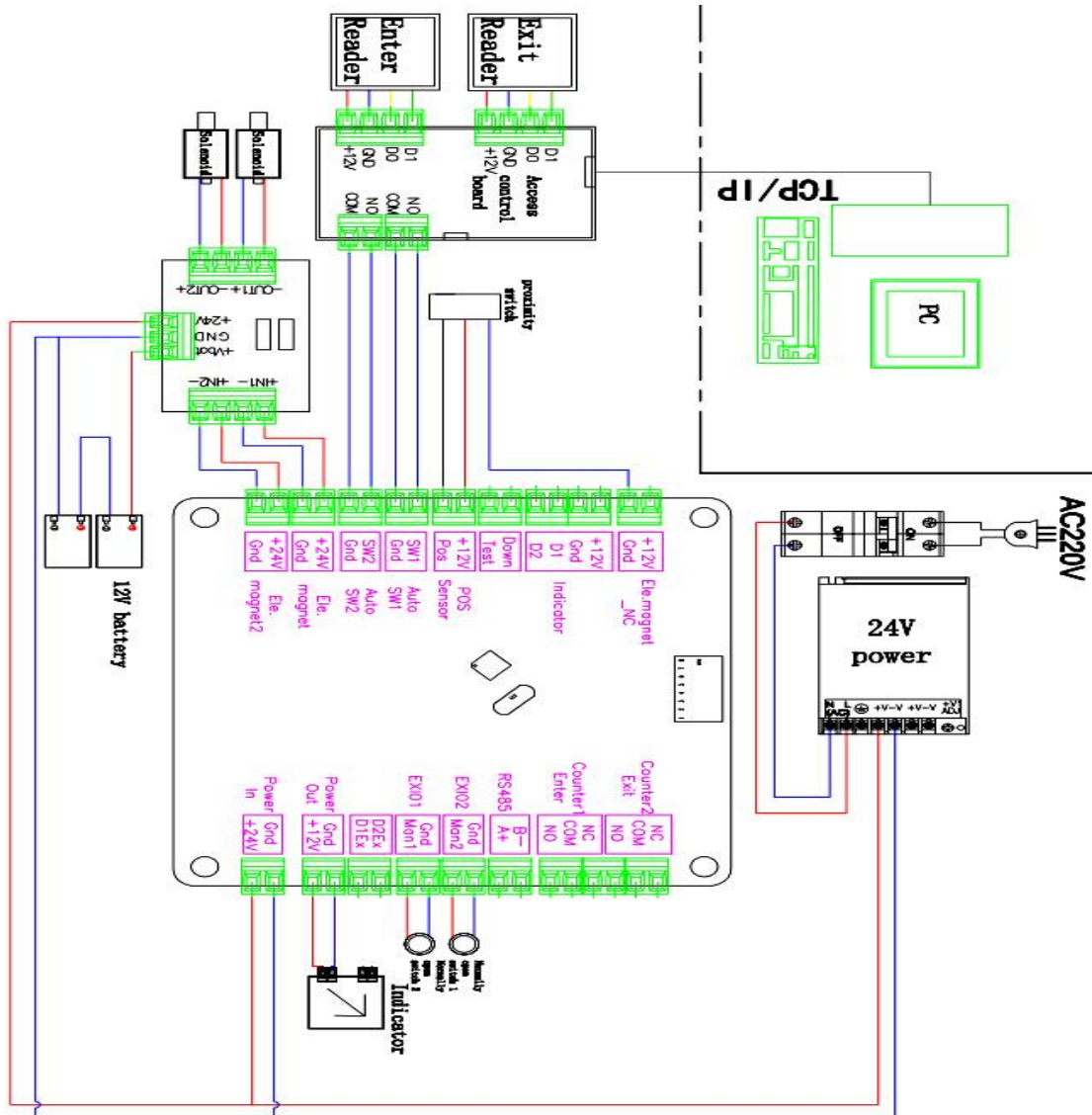
3.1 Board instruction



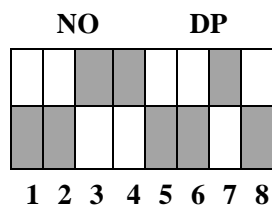
No	Port Sign	Instructions
1	+24V	24V input power supply to PCB board
2	GND	
3	+12V	12V power Output to indicator
4	GND	
5	D1Ex	NO USE
6	D2Ex	
7	Man1	Entry button for manual opening gate input
8	GND	
9	Man2	Exit button for manual opening gate input
10	GND	

11	A+	485 communication
12	B -	
13	NO	Entry relay normally open and normally close interface which also can connect entry counter
14	COM	
15	NC	
16	NO	Exit relay normally open and normally close interface which also can connect exit counter
17	COM	
18	NC	
19	+12V	+12 V power supply for arm drop down circular solenoid
20	GND	
21	D1	Entry LED indicator signal input
22	D2	Exit LED indicator signal input
23	+12V	+12 V power supply for indicator
24	GND	
25	Down	
26	Test	
27	+12V	Position sensor full close in place signal input,once arm turn 120 degree , it will give closing gate signal
28	POS	
29	SW1	Entry opening signal input, Dry contact signal and Access control PCB board entry opening relay signal (NO connect SW1, COM connect GND, and the relay time of access control board should be set "0" or "1")
30	GND	
31	SW2	Exit opening signal input, Dry contact signal and Access control PCB board exit opening relay signal (NO connect SW2, COM connect GND, and the relay time of access control board should be set "0" or "1"))
32	GND	
33	+24V	Output for entry square solenoid, normally 0v t, when board recieve open singal,This port will be 24v output
34	GND	
35	+24V	Output for exit square solenoid, normally 0v t, when board recieve open singal,This port will be 24v output
36	GND	

3.2 Wiring diagram



3.3 DIP switch instructions



Factory default 3 4 dial to NO(5 seconds)

1-6 DIP indication						Automatic reset	7	8
6	5	4	3	2	1	Times	Full high	Swipe card
0	0	0	0	0	1	2S	Default NO	Swipe card memory(Default no open)
0	0	0	0	1	0	2S		
0	0	0	0	1	1	2S		
0	0	0	1	0	0	2S		
0	0	0	1	0	1	2.5S		
0	0	0	1	1	0	3S		
0	0	0	1	1	1	3.5S		
0	0	1	0	0	0	4S		
0	0	1	0	0	1	4.5S		
0	0	1	0	1	0	5S		
0	0	1	0	1	1	5.5S		
0	0	1	1	0	0	6S		
0	0	1	1	0	1	6.5S		
0	0	1	1	1	0	7S		
0	0	1	1	1	1	7.5S		
0	1	0	0	0	0	8S		
0	1	0	0	0	1	8.5S		
0	1	0	0	1	0	9S		
0	1	0	0	1	1	9.5S		
0	1	0	1	0	0	10S		
0	1	0	1	0	1	10.5S		
0	1	0	1	1	0	11S		
0	1	0	1	1	1	11.5S		
0	1	1	0	0	0	12S		
0	1	1	0	0	1	12.5S		
0	1	1	0	1	0	13S		

with memory function, if swiping valid card 5 times, it can pass five peoples; without memory function, if swiping valid card 5 times, it only can pass one people.

Chapter 4 Trouble shooting and maintenance

4.1 Trouble shooting

Q1:When access board send open sigal,arm move reverse and indicator show reverse?

Reasons: open signal reverse connection

Solotion: exchange SW1 GND and SW2 GND terminal of board.

Q2: Indicator is not working?

Reasons: 1. wires loose 2. indicator or board damage

Solution:

1. Check connect wire of indicator
2. Repalce indicator or board.

Q3: How to achieve free for one way ?

1. Remove one of square solenoid

Q4: Arm can not push when swipe card and indicator show green ?

Solution: 1. Check 24V GND output for square solenoid 2. Replace new board or solenoid

Q5: Passing two or three people after swipe card at a time.

Reasons:

1. The Positon sensor didn't be touched by the right screw cap when the turn plate rotating. (Or didn't receive the effective signal even touched)
2. The square solenoid does not stretch smoothly.
3. Control baord damage

Solution:

1. Move the position senor inward ,Check connect wires to board
2. Adjust square solenoid or replace new one.

3. Changing the square solenoid.

4. Replace a new board.

Q6: Rod can't turn 90 degrees or 120 degree for one pass?

Reasons:

1. The position sensor is too close to the wheel;
2. If the speed go through is too slow and times out.

Solution:

1. Open the cover of to box , adjust position sensor
2. Set DIP switch

Q7: It is hard to push the shaft rotation?

Reasons: 1. Bottom bearing rust or damage; 2. The shaft is not vertical

Solution: 1. Replace new bearing 2. Adjust the shaft to vertical

4.2 Maintenance

Full high turnstile 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.
- Check the bearings at the bottom of the shaft

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;wipe rust inhibitor to keep stainless steel bright
2. Rust removal and Lubrication: Check the movement of the flap /slide gate 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. Cleaning the bearings at the bottom of the shaft and add grease.

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

6. 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.

