SERVO SYSTEM USER MANUAL

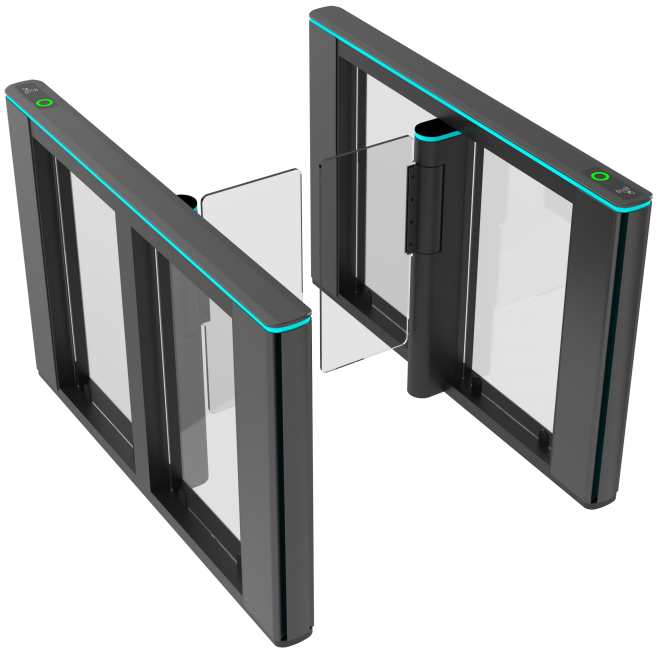
SPEED GATE

Before operating this unit, please read this instruction completely

CartPoland®
Polski Producent Kart Plastikowych

Servo System Manual

speed gate



(We have various models of the swing/speed gates. While their working principle, assembly instruction steps, and wiring diagram are the same. If you need drawing of certain model, please contact our sales people.)

CONTENTS

Note: Before operating this unit, please read this instruction completely.

【Preface】

Thank you for choosing our swing turnstile or speed 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 wrong operation.

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.

1. Product introduction

1.1. Brief introduction

A speed gate turnstile is a type of gate or barrier commonly used for controlling pedestrian access in various settings such as office buildings, airports, train stations, and stadiums. Unlike traditional turnstiles that may be slower and require manual operation, speed gate turnstiles are designed for rapid throughput and enhanced security.

Speed gate turnstiles are designed to allow rapid passage of individuals, often using sensors to detect the presence of a person and automatically open the gates swiftly.They typically incorporate sensors and control mechanisms to prevent unauthorized access, such as tailgating (two people passing through with one authorization) or crawling under the gate.Many speed gate turnstiles are equipped to integrate with access control systems, RFID readers, or biometric scanners for enhanced security and convenience.

speed gate turnstiles offer efficient and secure pedestrian management solutions, making them popular in modern facilities where both speed and security are paramount considerations.

1.2. Function Features

1.2.1. Function:

- **Access Control:** The primary function of a speed gate/swing turnstile is to control the movement of individuals through a designated entry or exit point. It ensures that only authorized personnel are allowed to pass through while deterring unauthorized access.

● **Traffic Management:** Speed gate/swing turnstiles are designed to efficiently manage pedestrian traffic flow in high-traffic areas such as transportation hubs, stadiums, and office buildings. They help prevent overcrowding and congestion.

● **Security Enhancement:** By requiring valid credentials for entry, such as access cards, biometric scans, or PIN codes, or face recognition , QR code, speed gates/swing turnstile enhance security by preventing unauthorized individuals from entering secure areas.

● **User Authentication:** Speed gates/swing turnstile integrate with access control systems to authenticate users before granting access. Biometric integration, such as fingerprint or facial recognition, ensures accurate user identification.

● **Directional Control:** Speed gates/Swing turnstile can be configured to allow passage in one direction only (entry or exit) or in both directions, depending on the flow requirements of the location.

● **Emergency Egress:** In emergency situations, speed gates can be configured to quickly release and provide a clear path for evacuation, ensuring the safety of individuals.

1.2.2. Key Features:

● **High Throughput:** Speed gates/Swing turnstile are designed for rapid processing, allowing authorized users to pass through quickly without causing bottlenecks or delays.

● **Elegant Design:** Aesthetic considerations are vital. Speed gates/Swing turnstile feature sleek and modern designs that complement various architectural styles and enhance the overall ambiance of the environment.

● **Customization Options:** Speed gates/ Swing turnstile models offer customization options for finishes, materials, and lighting, enabling them to blend seamlessly with the aesthetics of the surroundings.

● **LED Indicators:** LED lights and indicators guide users through the access process. They provide clear visual cues about the gate's operational status and whether access has been granted.

● **Integration Capabilities:** Speed gates/Swing turnstile can integrate with various security systems, such as access control software, surveillance cameras, and alarm systems, for centralized management and monitoring.

● **Anti-tailgating Mechanism:** To prevent unauthorized individuals from following closely behind authorized users (tailgating), speed gates often include sensors that

detect and deter such attempts.

● **Alarm and Notification Systems:** Speed gates/ Swing turnstile can be equipped with audible alarms and notifications to alert security personnel in case of unauthorized access attempts or other security breaches.

● **Durability:** Constructed from robust materials, speed gates/swing turnstile are built to withstand heavy usage and various environmental conditions, ensuring long-term reliability.

● **User-Friendly Interface:** Speed gates/swing turnstile feature user-friendly interfaces that guide users through the access process, providing clear instructions and feedback.

● **Remote Control:** speed gate systems/swing turnstile offer remote control and configuration options, enabling administrators to manage access settings from a central location.

● **Self checking:** With fault self-checking and alarm prompt function, it is convenient for users to maintain and use.

● **Various pass modes:** Such as card swiping both direction ,card swiping access and free access in another direction.

● **Memory function:** It has the function of swiping card with memory (default setting without memory function).

● **Automatic Reset:** It has the function of overtime automatic reset. After opening the gate, if it does not pass within the specified time, the swing gate is automatically closed, and the passing time is adjustable (the default time is 5S).

1.3. Technical parameter

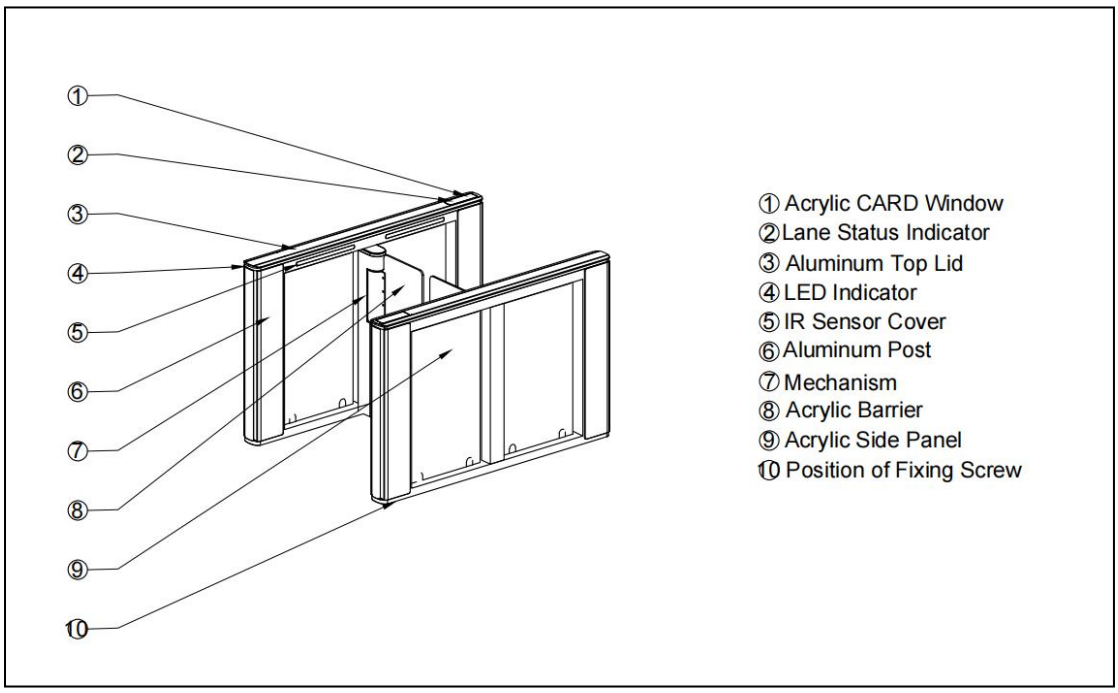
Housing Material	Aluminium Ally and Iron with powder coated
Input power	AC 100-240V; 50/60Hz
Working voltage	DC 24V
Motor	Servo Motor
Working temperature	-15 ℃ - 80 ℃

Work environment	≦90%, no condensation
Open signal	Passive signals (relay signals, dry contact signals,)
Communication	RS232/RS485
CPU	STM32F103 Cortex-M3 processor,main frequency 80MHz
Voice prompt output	Support 4 ohm/5W Speaker. Adjustable volume
Response time	0.2S
Limiting method	Mechanical and encoder
LCD display	EN/CH
Infrared polarity	PNP& NPN
System Upgrading	Support online upgrade via RS232
Status Monitor	Support dynamic monitoring of channel status
Abnormal detection	Supports movement, motor, and infrared error detection functions
Zero finding	Automatic finding zero position after power on

1.4. Product structure and principle

Linguistic definition:

- **Single mechanism gate:** refers to a gate with only one arm.
- **Double mechanism gate:** refers to the gates two arm,one on the left and one on right sides.
- **Main Gate:** Refers to the gate with infrared receiver installed in the machine.
- **Vice Gate:** Install the infrared transmitter and use it in combination with the main machine to form another gate of the channel together.
- **Zero position:** gate closed position.
- **Free passage:** open the door without swiping the card.



1.4.1. Product structure

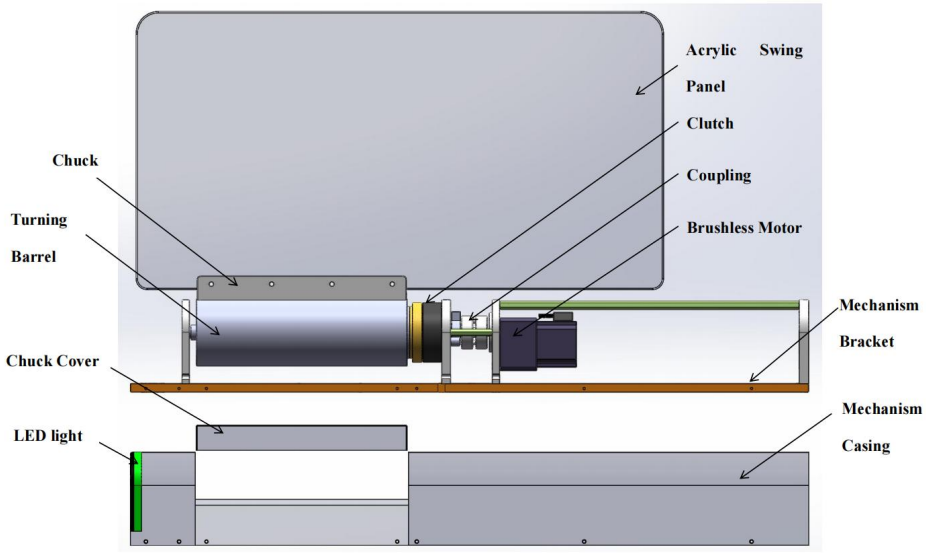
The structure of the product is mainly composed of **mechanical system** and **electric control system**.

The mechanical system structure

The mechanical system is composed of cabinet and core mechanism.

The cabinet is a carrier which is equipped with LED indicator, RGB light ,infrared sensor and other device.

- The core mechanism of speed gate is composed of motor, coupling, clutch,turning barrel and chuck.



The electric system

The electric system consists of **access control system, turnstile control board, infrared sensor, direction indicator, servo motor, power supply, buzzer** and so on.

The functions of the main components are as follows:

(1) **Access control device:** IC/ID card reader access control,fingerprint, face recognition, code reader etc, access control device send open signal to the turnstile board. Remote control or button can also control the gate directly (All the third party access control is compatible with our gate).

Remote Control | Swipe Card | QR Code | Face Recognition | Fingerprint | Button

The choice of the access control system depends on factors like the level of security required, the size and complexity of the facility, the number of users, and the organization's specific needs and preferences. Organizations may choose a single type of access control or employ a combination of these methods to achieve the desired level of security and convenience.

(2) **Turnstile Control Board- main board and drive board:**

- **The main board** is the central control unit of the servo motor speed gate system. It houses the main microcontroller or processor responsible for coordinating and controlling the overall operation of the gate.

  Access Control Logic: Processes access control signals and determines whether to open or close the gate based on user authentication.
  Communication: Facilitates communication with other systems, such as access control systems, security systems, or network interfaces.
  Safety Features: Monitors safety sensors, emergency stop buttons, and other safety devices to ensure the safe operation of the gate.
  System Monitoring: Keeps track of the gate's position, status, and any error conditions.
  Interface with Drive Board: Sends control signals to the drive board to regulate the movement of the gate.

- **The drive board** is responsible for controlling the servo motor that drives the movement of the gate. It interprets the control signals from the main board and converts them into signals that drive the servo motor.

  Motor Control: Generates signals, often in the form of Pulse Width Modulation (PWM), to control the servo motor's speed and position.

  Feedback Processing: Receives feedback signals from sensors, such as encoders or potentiometers, attached to the servo motor. This feedback is used to ensure accurate positioning and to adjust the motor's operation.

  Current Limiting and Protection: Monitors the current supplied to the servo motor to prevent damage from overcurrent conditions. It may also include protective features to avoid overheating or other potential issues.

  Power Amplification: Amplifies control signals to provide the necessary power to drive the servo motor.

(3) **Infrared sensor:** Turnstile IR sensors, or Infrared sensors, are commonly used in turnstile systems to detect the presence of individuals approaching the turnstile or passing through it. These sensors work based on the principles of infrared light emission and reflection.

Standard IR Sensor

Button IR Sensor

Here's how they typically function:

A. Emitter and Receiver Pair: A turnstile with an IR sensor typically consists of two main components: an emitter and a receiver. The emitter emits an infrared (IR) beam of light, while the receiver detects this beam.

B. Beam Path: The emitter and receiver are positioned on opposite sides of the turnstile's passage area, and the IR beam forms a straight line between them. This beam path can be horizontal, vertical, or at an angle, depending on the

specific design of the turnstile.

C. Normal State: In the normal state, the IR beam emitted by the emitter travels directly to the receiver without interruption. This indicates that the passage area is clear of obstacles or individuals.

D. Presence Detection: When an individual approaches the turnstile and enters the IR beam path, their body reflects or partially blocks the IR light. This interruption or reflection of the IR beam is detected by the receiver.

E. Access Control: The turnstile control board processes the signal from the receiver. If configured to do so, it can take action based on the detection event. For example, if an authorized user is detected, the control board may unlock the turnstile to allow passage. Conversely, if an unauthorized or blocked passage is detected, the turnstile may remain locked or trigger an alarm.

F. Direction Control: Some turnstiles use two pairs of IR sensors to determine the direction of movement. By comparing the sequence of interruption and reflection events, the control board can determine whether an individual is entering or exiting the secured area and act accordingly.

G. Safety Features: In addition to access control, IR sensors are used for safety purposes. If the IR beam is interrupted by an obstacle or an individual while the turnstile is in motion, it can trigger an immediate stop or reversal of the turnstile to prevent accidents.

H. Alignment and Calibration: Proper alignment and calibration of the IR sensors are crucial to ensure accurate detection and reliable operation. This ensures that the sensors detect individuals consistently and differentiate between authorized and unauthorized access.

I. Integration: IR sensors are often integrated with the turnstile's control board, which may be part of a larger access control system. The integration allows for customization of behavior, logging of access events, and coordination with other security measures.

(4) **Servo motor:** the servo motor in a speed gate serves as the powerhouse that drives the gate's movement with precision and control. Its ability to receive and process control signals, provide accurate position feedback, and regulate speed is essential

for the reliable and efficient operation of speed gates in access control systems.

Precise Position Control:Servo motors are known for their ability to provide accurate position control. The servo motor in a speed gate is equipped with a feedback device, such as an encoder or a resolver. This feedback mechanism constantly monitors the position of the motor shaft, allowing for precise control of the gate's position.

Speed Control:The speed gate's servo motor regulates the speed at which the gate moves. This is especially important in speed gates where rapid and controlled movement is required for efficient and secure access.

Acceleration and Deceleration:The servo motor enables smooth acceleration and deceleration of the gate to prevent abrupt starts and stops. This not only contributes to the gate's overall speed but also enhances user safety and comfort during operation.

Feedback Mechanism:The feedback device attached to the servo motor provides real-time information about the motor's position. This feedback is crucial for the control system to make adjustments and ensure that the gate is in the correct position at all times.

Smooth Operation:Servo motors contribute to the overall smooth operation of the speed gate. Their ability to provide precise control, accurate positioning, and variable speed adjustments ensures that the gate moves seamlessly, reducing wear and tear on the mechanical components.

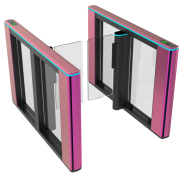
(5) **Clutch:** The clutch plays a critical role in ensuring the security and safety of the turnstile system. By controlling the engagement and disengagement of the clutch, the turnstile can be locked in place, preventing unauthorized access or forced entry. When a valid access credential is presented, the clutch is engaged, enabling controlled rotation. In case of an emergency or power failure, the clutch can be disengaged to allow free passage or manual rotation.

(6) **Power supply:** The power supply we used is auto-switch power supply which are designed to accept a broad range of input voltages (e.g., AC100-240V) and frequencies (e.g., 50-60Hz). This flexibility allows them to work with different power standards commonly found worldwide. You can connect them to a wide range of power sources without needing a voltage converter or frequency

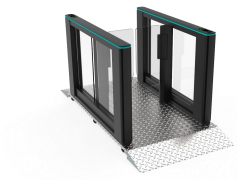
adapter.turnstile gate installation is in a location where the power supply specifications may vary, an auto-switching power supply can simplify the installation process. It eliminates the need to source a specific power supply unit for each region or worry about power compatibility issues.

Customization

For each model, we have our standard size, material, design. However, the gate size, material,color , swing arm material can be customized mainly from below aspect:



With Pink color



With mounting base

2. System Operation Principle

The operation of a turnstile gate involves a series of steps to control the flow of people through a secured entry or exit point. Here are the typical operation steps of a turnstile gate:

(1) **Start:** Turn on the power, wait for the end of the self-examination; the system enters into work mode.

(2) **Idle State:** The turnstile gate is in its default state, with the barrier arms or barriers in a closed or locked position, effectively blocking passage. In this state no one can pass through without the appropriate authorization.

(3) **Credential Presentation:** a person approaches the turnstile gate, they must prepare to present a valid access credential or follow specific instructions.

(4) **Access Verification:** The access control system reads and processes the

presented credential or input. It then sends this information to the control panel or central processing unit for verification.

(5) **Credential Validation:** The control panel checks the validity of the credential by comparing it to a database of authorized users or access codes. It determines whether the user is authorized to pass through the turnstile gate.

(6) **Authorization Decision:** Based on the validation results, the control panel makes an authorization decision. If the credential is valid and authorization is granted, the control panel proceeds to the next step. Otherwise, if the credential is invalid or authorization is denied, the turnstile gate remains locked, and access is denied.

(7) **Barrier Release:** When authorization is granted, the control panel sends a signal to the turnstile main board. The main board receives open signal, control indicator to turn green, motor acts to open the barrier.

(8) **User Passage:** With the barrier arms or barriers open, the authorized user can pass through the turnstile gate. Users are 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.

(9) **Barrier Reset:** After the user has passed through, the barrier arms or barriers automatically reset to their closed or locked position behind them. This prevents unauthorized individuals from following closely behind.

(10) **Return to Idle State:** The turnstile gate returns to its idle state, ready for the next user to present a credential or follow the access instructions.

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

3. Equipment Installations

3.1. Installation notes

- Please read this manual carefully before install it;

- The gates must be correctly arranged in order, and the left and right gates of each lane 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;
- Make sure there is a reliable and appropriate power source near the installation location to power the turnstile;
- Protective earth wire must be connected;
- Please confirm each RJ45 cable straight through;
- Please check all wires has been properly connected before power on;
- Please test all function before using.
- If the swing turnstile is part of an access control system, coordinate with the system provider to ensure seamless integration. This may include connecting card readers, biometric scanners, or other access control devices.

3.2. Equipment Installation

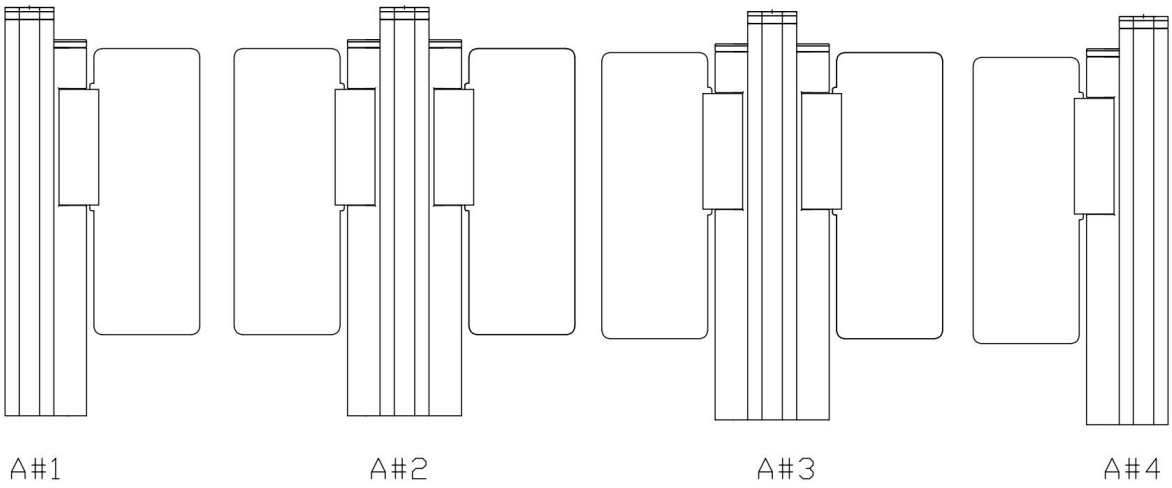
(1) Tool preparations

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;

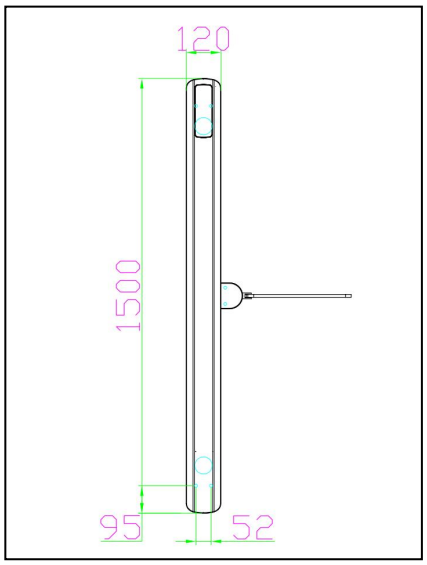
(3) Make well of installation of equipment foundation base;

(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 A#1-A#2-A#3-A#4 etc on one side; If there are more than 1 group, it will be marked with B, C, D, E, etc.



(5) Mark the fixing position of expansion bolts according to fixing plate on the bottom of each turnstile and mark the location of the cable hole;

If you need to prepare the mounting base in advance, please contact our sales people to get the fixing plate drawing like the below image.



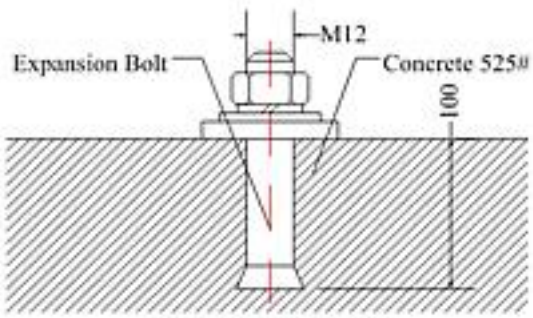
(6) Move turnstile and drill hole by impact drill, fix Expansion screws after determining the hole positions and bury M12 ground bolts or inflated screw bolts before hand;

(7) Lead the strong/weak power cables into Φ 32 PVC tubes respectively, and bury them with cement to the corresponding position: each lane has AC220V/110V power cable RVV3*1.5mm and 1pcs 3 core cable for connecting main gate and vice gate.1 PCS network cable for access control system (if install other control system according to the actual situation of laying related field the wire) ;

(8) Move each machine to the corresponding mounting position and point to the expansion bolt position and align with each ground screw bolt;

(9) Check the system composition and operation mode, and carry out the next operation after confirming the above check;

(10) Open the cabinet door, select one of the gate as a reference (it is better to select the middle one as reference). Align the hole for screw bolt at the chassis with the respective ground screw bolt. Then, tighten the nut preliminarily; The rest products are installed as the same;

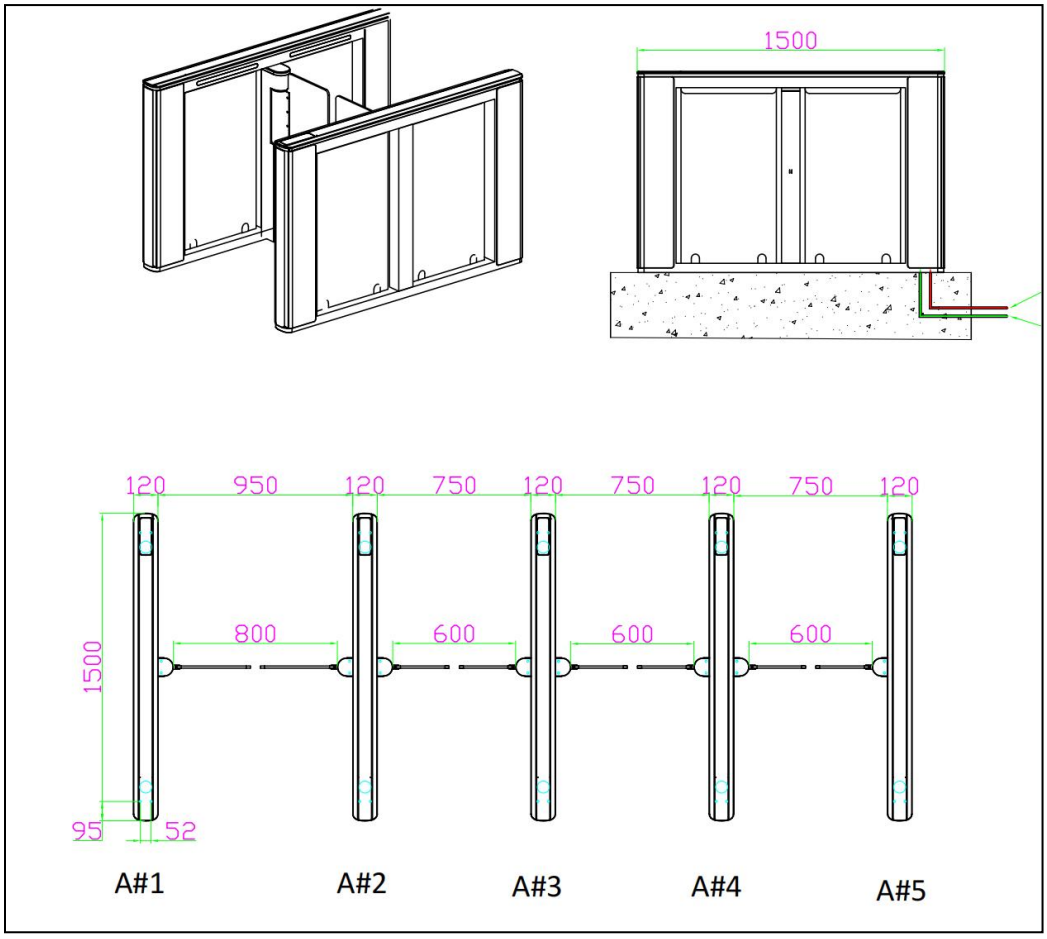


Ground Foot Installation
Foundation Drawing

(11) Connect properly the power cables and control cables in accordance with the connection diagram for electric controller, and connect properly the protection ground wire of the system;

(12) Check each gate alignment, all lane are completed debugging and function test, then tighten the nut.

EXAMPLE



Installation Instruction:

a. 1.The φ32mm PVC tube for AC 220V or AC 110V Power wire (3*φ2.0mm).

b. 2. The φ32mm PVC tube for signal cable of main drive to slave drive(3*0.3mm),main board to slave board(2*0.3mm)and TCP/IP cable of ACS.

c. Fixing the equipment with M10/12*100mm expansive bolt.

* A separate PVC tube for TCP/IP from ACS to PC

If you need the installation drawing of a certain model, please contact our technical people or sales people.

3.3. Debugging instruction

(1) Inspect for Physical Obstructions: Check for any physical obstructions in the path of the turnstile. Objects or debris can prevent it from functioning properly.

Inspect the arms or barriers for any visible damage or misalignment.

(2) Check wire: Verify that the power supply to the turnstile is working correctly. Ensure there are no loose connections or damaged wires. Verify that the power supply is stable and within the specified voltage range.

(3) 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;

(4) 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 red 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 aligned well, please adjust to aligned.

(5) The delay time of access control device must be set to 0-1 seconds.

(6) 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.

(7) 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.

(8) If the turnstile includes gate extensions for ADA compliance, test their operation. Ensure that the extensions open and close smoothly when activated.

(9) Verify that they can be automatic open in case of power failure.

(10) Test the turnstile's emergency operation mode, which should allow for unrestricted passage in both directions during emergencies or power outages.

3.4. Notice of use

- If it tests well before installation, then fixed it; before you install and maintain it, please cut off the power;

- Allow only one person to pass through the turnstile at a time. Attempting to squeeze through with another person can damage the turnstile and result in

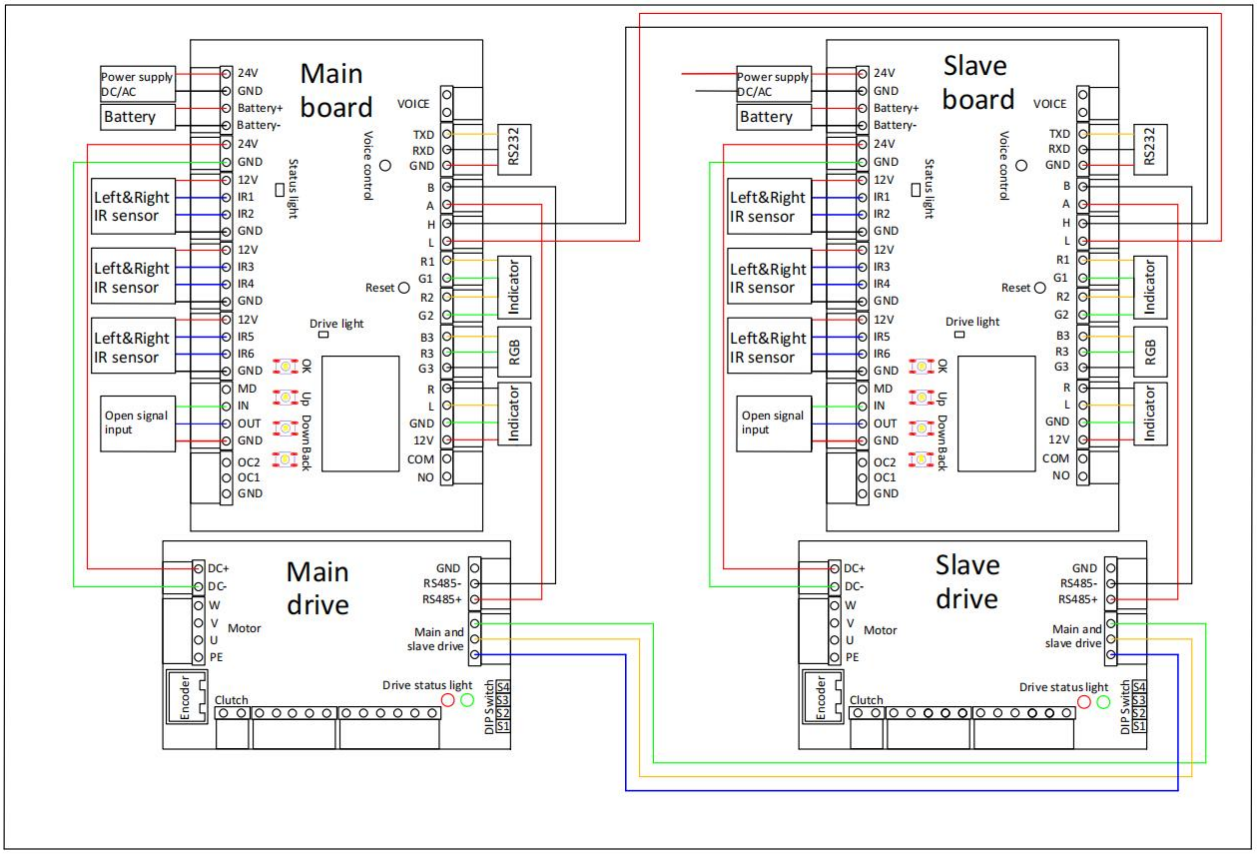
unsafe conditions;

- Don’t change the inside wire of the turnstile casually;
- Please don’t open the turnstile when it is under the working status;
- Some turnstiles are designed to rotate in one direction (e.g., clockwise), while others may be bidirectional. Ensure you understand the permitted direction of rotation and use it accordingly;
- In case of an emergency or power failure, most turnstiles have a fail-safe mode that allows for free rotation or egress. Familiarize yourself with the emergency procedures and exits in the area;
- 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;
- Be mindful of children, individuals with disabilities, or anyone who may have difficulty using the turnstile. Some facilities have special lanes or gates to accommodate these individuals.

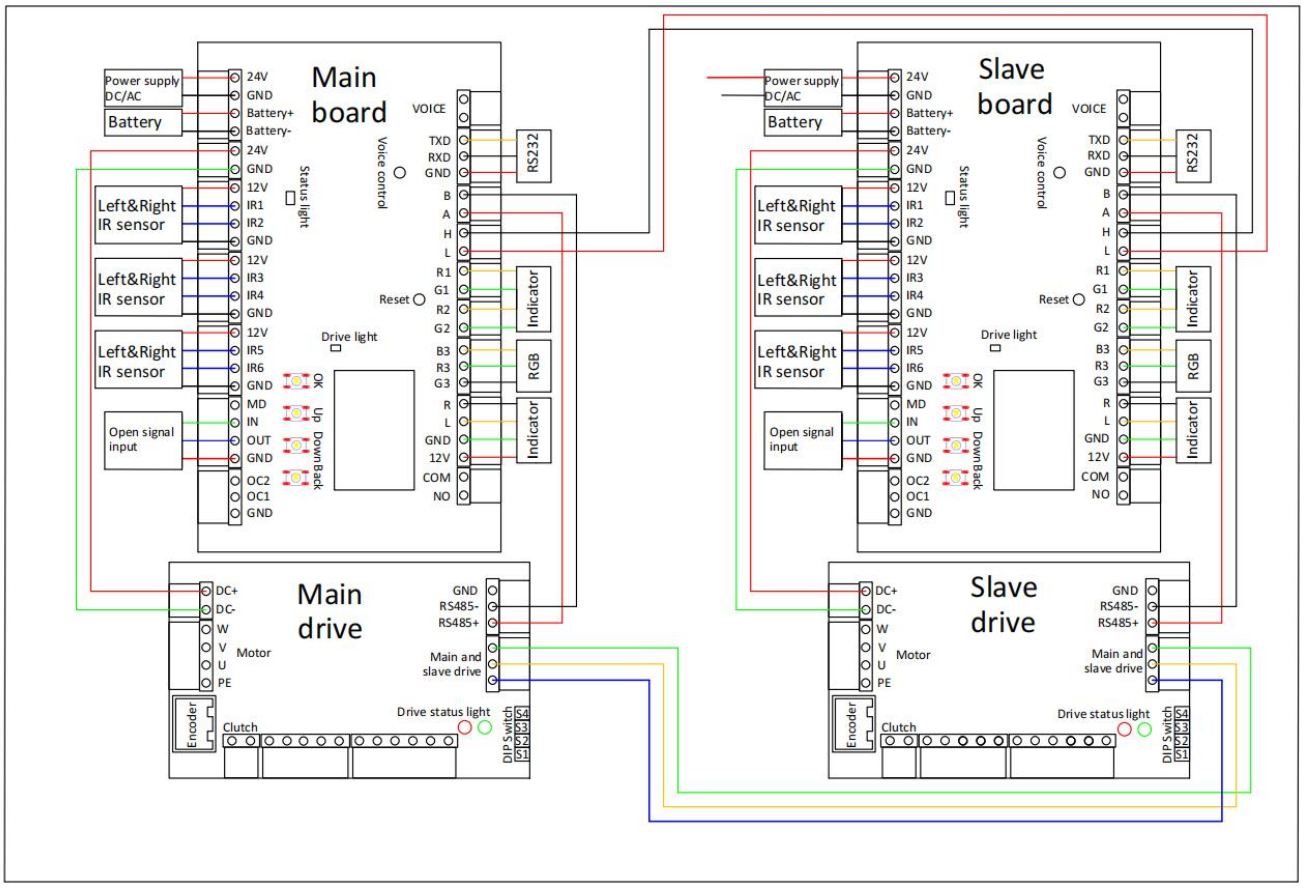
4. Controller Board and Drive board and parameter instruction

4.1. Controller Board& Main Drive Board

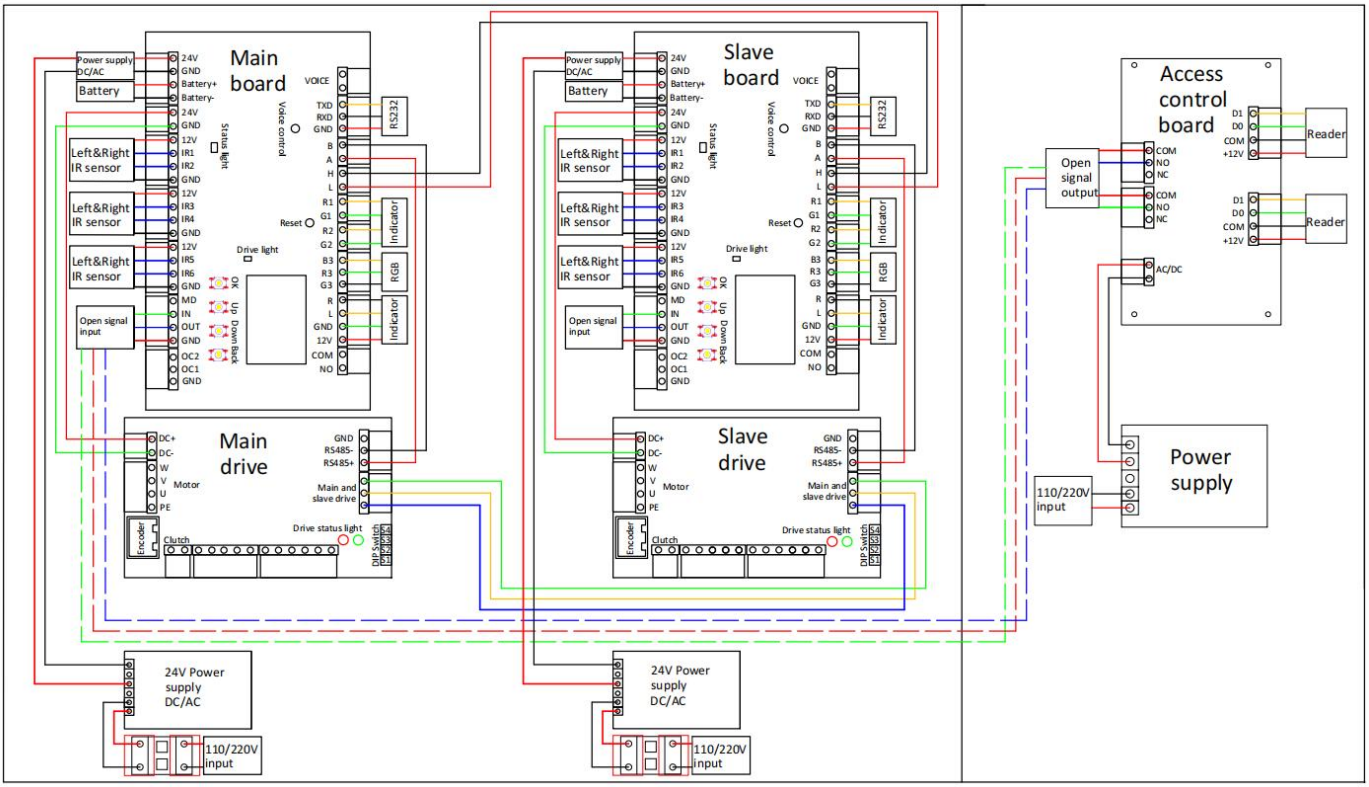
Main board and main drive work together to provide secure, efficient, and controlled access in a servo motor speed gate system. The main controller makes decisions based on user authentication and system conditions, while the main drive physically executes these decisions by controlling the movement of the gate through the servo motor.



4.2. Wiring diagram



Wiring diagram with ACS



Description: the factory has been set up parameters, please do not modify, if you need to modify the parameters, please proceed under technical guidance.

4.4. Description

(1) The display screen refers to the main control board of LCD display

(2) There are 4 operation keys on the control panel, "COMFIRM", "Up", "Down" and "BACK".

Key Description:

CONFIRM: used to enter menu setting items or confirm the current modified value

Up: Used to move menu items up or add value

Down: Used to move menu items downwards or add value

BACK: used to return to the previous menu or cancel the current operation

4.5. Operation

Press the CONFIRM key twice in succession to wake up the menu.

The password is: **Up Up Down Down Up Down**.

After entering the menu, press "Up" or "Down" to select a certain function menu and then press "CONFIRM" to enter the function or value changing interface. Select or adjust

the corresponding value by pressing the Up and Down keys, and then press the “CONFIRM” key to complete the setting and press"BACK" key to return

4.6. Menu setting

First Level menu	Secondary menu	Parameter Description	Remark
Parameter	In Mode	Free, Swipe , OfftenOff	Default: swipe card
	Out Mode	Free, Swipe , OfftenOff	Default: swipe card
	Gate type	Speed gate/wing gate	Default: speed gate
	IR number	4pairs/6pairs	Default:4pairs
	IR Polarity	PNP、NPN	Default: PNP
	Open speed	5-300	Default: 35 The larger the parameter value , the slower the speed
	Close speed	5-300	Default: 35 The larger the parameter value , the slower the speed
	Test mode	Normal/test	Normal: Normal
	Open direction	Forward /reverse	Default: Forward open
	Safe Mode	Normal, Safe Close, Fast Close	Normal: Passing the last infrared Safe Close: Close the gate if no one in the channel Fast: Close the door once Leave the security zone
	Open Cnt	Open count Open one	Continuously swipe the card to accumulate the number of people and count them
	Count clr	OK /Cancel	
	Link In	Offen open/Offen close	Cancel the fire input exit fire state(emergency input)
	Servo type	LS,IGM2408,WYZK	default：LS
	Servo port	RS485、RS232	default：RS485
	Inner Swipe	Allow, Prohibit	By default: Prohibit Prohibit card swiping if someone in the channel
	LED mode	Standard/Background light/Arrom+Light/	default：Standard mode
	Emergency Open	In/Out	The open direction after power off
	Reverse	Close Gate, Again Open, Alarm,	Default:Close Gate
	TrailIn	Maintain, Again Open , Close Gate	Closing gate refers to close the gate after the first person passed through the security zone
	Safety Direction	Unidirectional,Bi-directional	Default: Unidirectional
	Safety Policy	Pause,Reverse	Default: Pause
	Open Anti-pinch	Open/Close	Default: Open
	Master-Slave	Master mode, Slave mode	Default: Master mode

LS Set	Set Zero	OK ,cancel	The main and slave machines are aligned together on both sides
	In Off Adjust	OK ,cancel	Master and slave machines are adjusted together (do not top to mechanical limit)
	Out Off Adjust	OK ,cancel	Master and slave machines are adjusted together (do not top to mechanical limit)
	Torque Adjust	0-500	Default: 500
	EnableBreak	Yes/no	Default: No
	Start Speed	50-500	Default: 200
	Ele Clutch Dly	0-3000	Default:5
	Re Run Dly	0-3000	Default:60
	Single type	Single Gate, Double gate	By default: Double gate
	SlaveDirect	Forward /Reverse	Reserve
	RunDirect	Forward /Reverse	Forward
	BlockFilter	0-10000	Default:50
	DelayWork	0-10000	Default:200
	ReFactory	Ok,Cancel	Reset factory setting
IGM Set	Master-Slave	Master Mode,Slave Mode	Default: Master Mode
	Gate Mode	Swing,Wing,	Default: Swing
	Open Angle	0-180	85
	Position Deviation	0-100	50
	ZeroCurrent	0-12000	4000
	WorkCurrent	0-12000	1000
	Off Current	0-12000	1000
	Off Angle	0-1800	50
	Cluth Dly	0-10000	2000
	Pause Dly	0-10000	2000
	Off Cluth	NoLock,Lock	Default:Lock
	MotorDirect	Reverse,Forward	Default:Reverse
	WorkSpeed	0-7	0
	ZeroFind	Ok, Cancel	
Output Set	PassOut	Enable,Disable	0 means do not prompt voice
	Alarm Out	Enable,Disable	
	Buzzer Out	Enable,Disable	
	Alarm Audio	Enable,Disable	
Audio Set	Entry Prompt	Audio Index	
	Exit Prompt	Audio Index	
	Break-In	Audio Index	
	TrailWarn	Audio Index	
	StayWarn	Audio Index	
Time Set	Wait Timeout	Timeout Time 0-255 Unit S	Default: 5S The time that keeps the door open when open signal is sent
	StayAlarmTime	Alarm Time 0-255 Unit S	Default: 5S Alarm if someone stay in the channel more than preset time.
	Off Time	Induction Time 0-255 Unit S	Default: 5mS Close the gate in 5mS if no one in the channel is detected
	IRCheckDly	Ifr trigger time 0-255 Unit S	Default: 5mS Infra invalid in 5ms if no one in the channel is detected

	Alarm Dly	Alarm Delay 0-255	Default: 5S Alarm relay output delay time
System info	Language	EN/CN	
	Reset Parameter	PY003,YZ002,BZ001,ST001	Default: ST001 reset to the swing parameter
	Version	S1.3.0 Sep 4 ,2023	
	Device Addr	RS232 Mailing address 1-255	Can be set by yourself
	RS232 speed	9600/19200/38400/115200	Default:115200 communication speed
	RS485 speed	9600/19200/38400/115200	Default:38400 communication speed
	Control PROT	RD001/TB001	Default RD001

(1) Peripherals may not be added to the system without permission.

(2) During the debugging process, if the debugging results are inconsistent with the described functions, please refer to the Common Faults and Troubleshooting section.

5. Inventory Procurement Permutation From

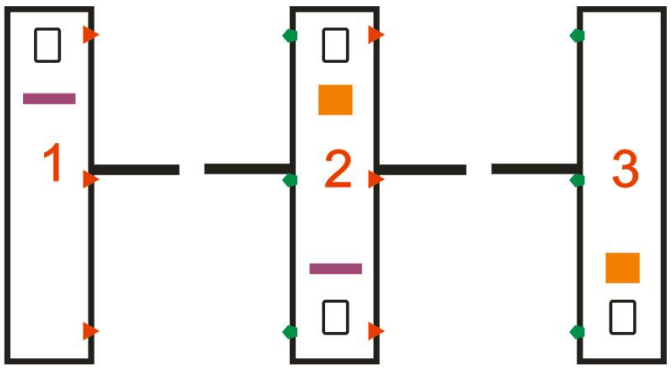
5.1. Purpose

Some customers will purchase gates for inventory, which means that customers do not know how many channels a specific project has, and they need to combine them at will when they have an order. In order to facilitate customers' inventory purchases, we will have the following three configurations. When customers have specific project details, they can freely match the channels they want, which is convenient and fast.

\

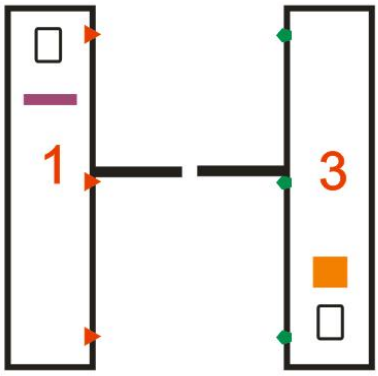
5.2. Description

It is convenient to combine channels at will during production and inventory. There is no need to make any changes when matching the chassis arranged by this rule, and it can be used only after powering on.

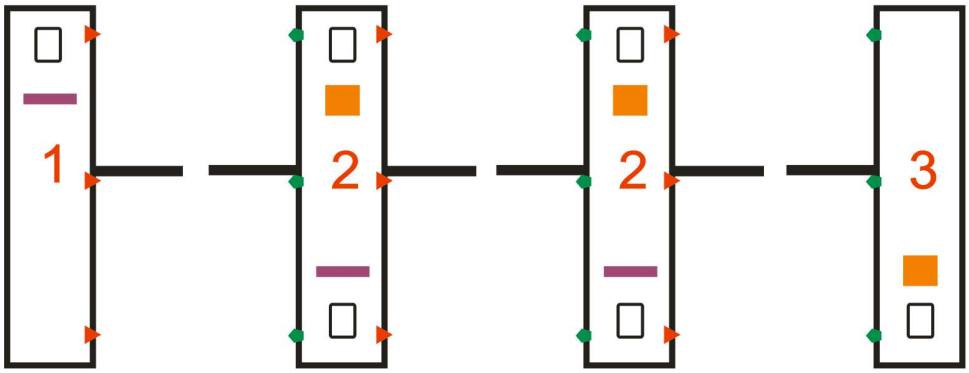


Lane No.	Gate No.	Note
1 Lane	1.3	Note 1: The production department will assemble the relevant accessories strictly according to the diagram. Note 2: When assembling, pay attention to the arrangement of the infrared transmitter and receiver. Note 3: When combining multi-lane, you only need to insert No. 2 between No. 1 and No. 3.
2 Lanes	1.2.3	
3 Lanes	1.2.2.3	
4 Lanes	1.2.2.2.3	
5 Lanes	1.2.2.2.2.3	
6 Lanes	1.2.2.2.2.2.3	
7Lanes	1.2.2.2.2..2.2.3	
8 Lanes	1.2.2.2.2..2.2.2.3	

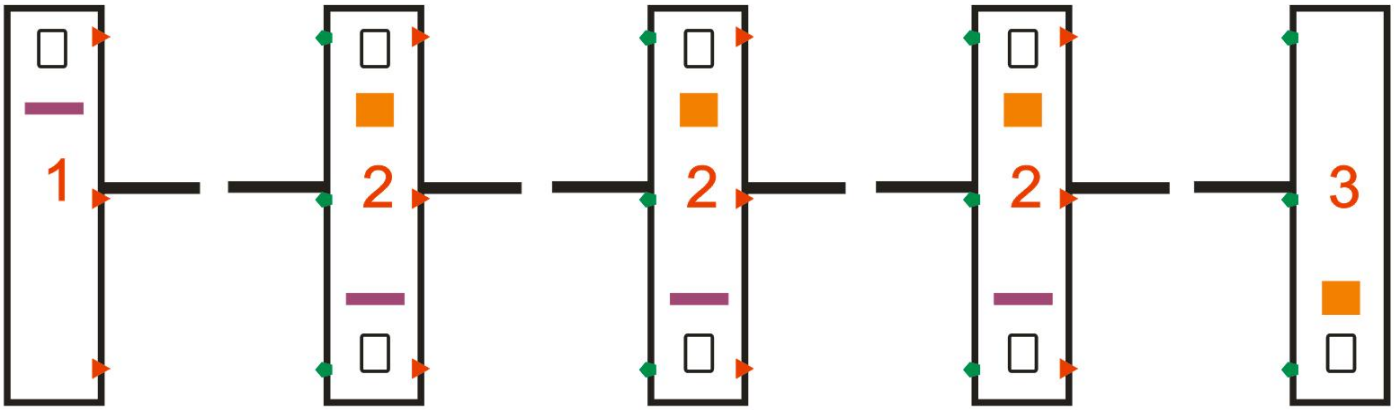
EXAMPLE



1 Lane



3 Lanes



4 Lanes

5.3. Trouble shooting

SN	Fault Phenomenon	Analysis and solution
1	The LED light direction is wrong	1. Check whether the connection cable is connected incorrectly 2. If the connection cable is correct, readjust it through the light panel setting switch. 3. Check channel parameters--Light control mode setting

2	Swing gate does not open after power outage	1. Check whether the capacitor voltage is lower than 12V, otherwise it needs to be charged 2. Check whether the capacitor connection terminals are correct 3. Is it successful to find zero
3	One swing open and the other is not open	1. Detect the corresponding safety infrared status of the gate that does not open. 2. Is it successful to find the zero position when the gate is not opened? 3. Turn off the power and push the swing arm to check whether there is mechanical resistance.
4	Do not close the gate after opening it	1. Detect security infrared status 2. Check whether the timeout is set too long
5	Can't find zero position after powering on	1. Check whether the motor cable and Hall cable connection are normal by the corresponding LED light judgment 2. Check the motor direction setting and follow the on-screen prompts. 3. You can reset the system parameters (clear the zero data)
6	When passing through, the gate will alarm.	1. Check whether the infrared connection is correct 2. Check the timeout time
7	The gate do not close after passing through	1. Check the status of safety infrared and determine whether the infrared is damaged or offset 2. Check whether the gate opening signal is connected to the fire alarm interface
8	The gate does not open when swiping the card	1. Detect the gate opening signal connection. The card swipe is the first to detect the gate opening access LED light on 2. Check whether the infrared in the safe zone in the

		channel is on 3. Whether the zero finding is successful 4. Check entry and exit opening mode
9	Gate opening pause	1. Check the resistance value in the swing arm parameters 2. Detect the maximum current in the swing arm parameters 3. Check whether the safety anti-pinch infrared position is correct

5.4. Maintenance

Speed gate require regular maintenance by professionals and daily cleaning to ensure long-term stability and extended equipment life.

(1) Daily 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:

* Cleaning: Check the housing and card reader panels of the gate, and remove the dust and other dirt to make them clean;
* 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;
* Screws fastening: Check the connection of the various moving parts, fasten the screws where they are loose to avoid causing fault for long-running;
* Circuit board cleaning: Cut off the power, and wipe dust of the board by using a clean brush;
* Cable Checking: Check the connecting lines and solder reinforcement if they are loose off.

(3) Regular Maintenance:

In addition to daily checks, it's a good practice to perform more comprehensive maintenance on a quarterly or semi-annual basis. This may involve tasks like thorough

cleaning, lubricating moving parts, inspecting electrical connections, and testing safety features. Depending on the turnstile's complexity, this can take anywhere from 30 minutes to a few hours.

 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.

Guarantee Instruction

Our company products are guaranteed for two years, 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.

● 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.

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

CartPoland®
Polski Producent Kart Plastikowych

www.bramkiobrotowe.eu
+48 795 183 316
office@cartpoland.pl