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eSSL Swing Barriers User Manual

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eSSL Swing Barriers



Preface

Thank you for choosing flap /slide 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.

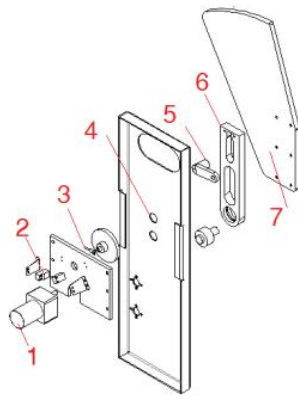
Product introduction

Brief introduction

The flap /slide barrier and swing gate is a kind of 2-way speed 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.

Product structure and principle

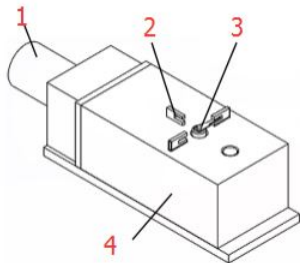
The structure of the product is mainly composed of mechanical system and electric control system. The mechanical system is composed of cabinet and core mechanism. The cabinet is equipped with indicator, infrared sensor and other device. The core mechanism is composed of motor, position sensor, transmission, shaft.



Flap core

- 1. Motor
- 2. Position sensor
- 3. Induction plate
- 4. Bearing
- 5. Transmission shaft.
- 6. Swing arm
- 7. Barrier

Swing core



- 1. Motor
- 2. Position sensor
- 3. Induction plate
- 4. Core

The electric control system consists of access control system, control board, infrared sensor, direction indicator, position sensor, motor, power supply, battery and so on.

NO	Name	Function
		IC/ID card access control, fingerprint, face
1	Access control device	recognition, code reader, access control device send delay signal to the turnstile board door signal. Remote control or button to open the door(select the configuration)
2	Main board (control)	The control center of the system, when receiving the 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

Detects and controls the opening and closing position

5	Position sensor	of the gate
6	Motor	Drive the barrier moving
7	Power Supply	power supply to control board The gate will keep open the door automatically when
8	12V battery	power failure

System Operation Principle

- Turn on the power, wait for the end of the self-examination ; the system enters into work mode;
- After swipe legal card or QR code and fingerprint, Access control device send opening signal to main board.
- The main board receives open signal, control indicator to green, motor acts to open the barrier.
- 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.
- 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.
- 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

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.
- High light LED indicator , displaying passing status.
- Self diagnostic and alarm function for convenient maintenance and use
- Gate will automatically open when power failure(connect 12V battery)

Technical parameter

Housing Material	304 stainless steel
Power	AC220±10% V 50HZ
Working voltage	DC 24V
Motor	Brush DC motor 30W
Working temperature	-20 °C – 60 °C
Work environment	≤90%, no condensation Passive signals (relay signals, dry

Open signal
contact signals,)

Communication RS485
Pass rate ≤35 person/min
Flap gate 550mm

Passage width
Swing gate 600–900mm

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;
- 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.

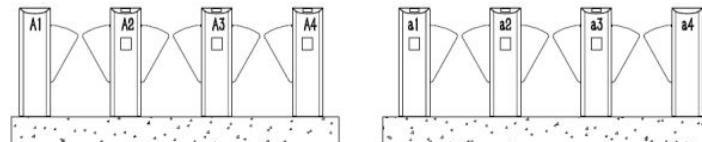
Equipment Installation

- Tool preparations

Screw driver and other common

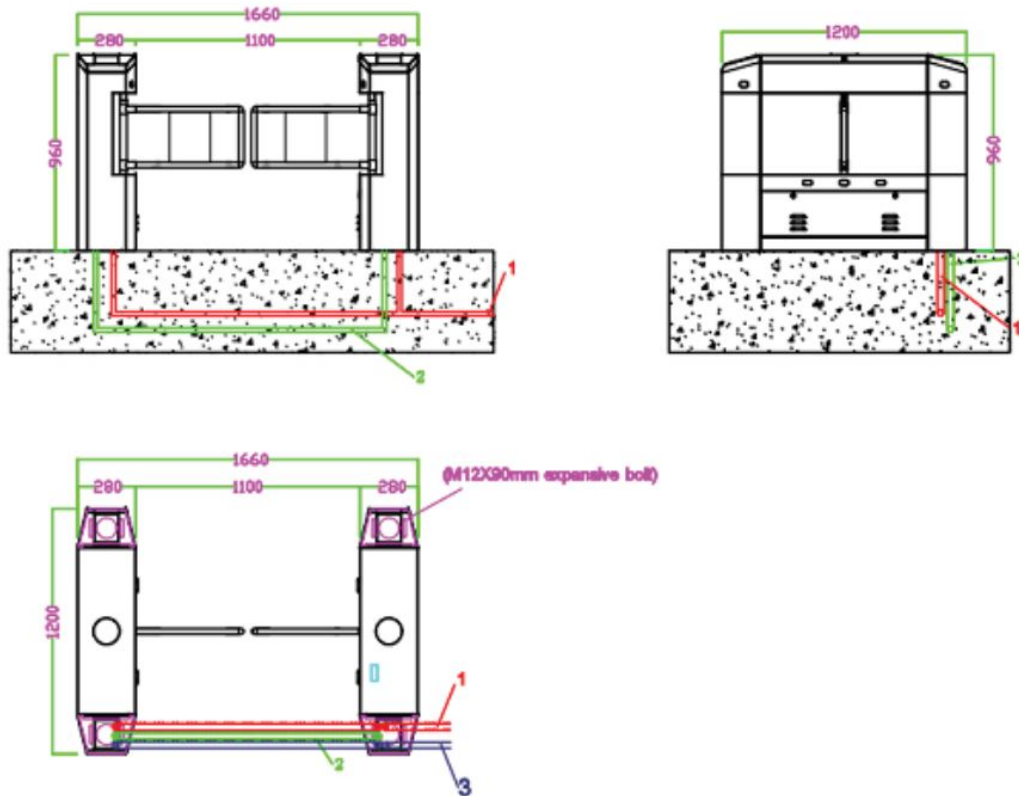
1	A set of hexagon spanner	5	wiring tool
2	Cross screwdriver 6mm	6	Millimeter
3	Open spanner 17-19mm	7	M12x100 Expansion screws 8pcs
	Impact drill(including		
4		8	Cable Tester
	D16 and D14 drills)		

- Ensure the installation location and the system composition ,prepare to install after carrying out the system planning;
- Make well of installation of equipment foundation base.
- 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.

Unit : mm



Installation Manual:

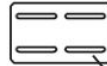
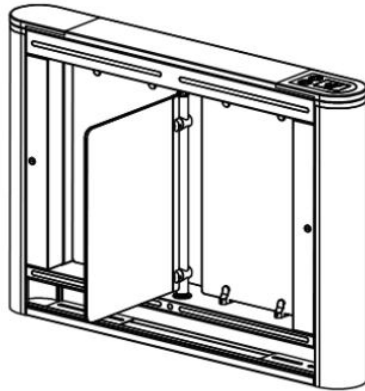
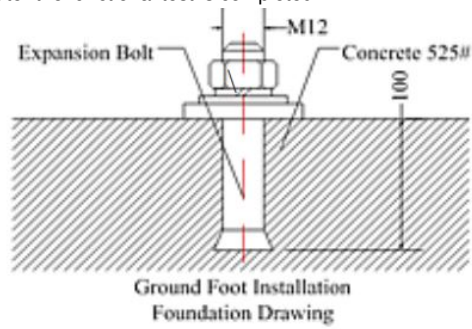
- 1 | The $\varnothing 20$ mm \varnothing PVC tube \varnothing for \varnothing AC \varnothing 220V \varnothing Power \varnothing wires (3 X $\varnothing 2.0$ mm).
- 2 | The tube for connecting vice-machine to master machine in the same lane (CAT5 network cables*2PCS, 2 * 0.5mm motor line*1PCS) .
- 3 | TCP/IP ethernet cable for connecting access device to PC.
- 4 | Control board.
- 5 | Fixing the equipment with M12 X 90mm expansive bolt .

Mark:All wires extending out of the ground shall be no less than 2M.



- Mark the fixing position of expansion bolts according to fixing plate on the bottom of each turnstile.
- Move turnstile and drill hole by impact drill, fix Expansion screws

- Tighten the expansion screw after the functional test is completed

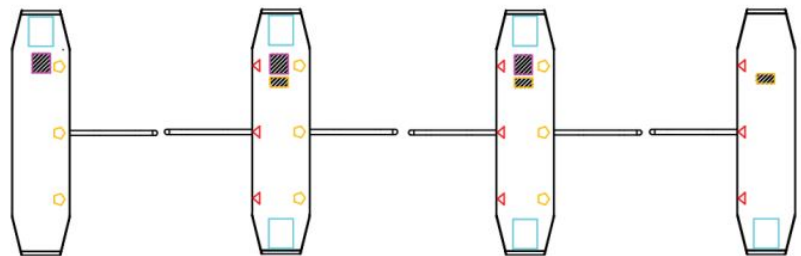
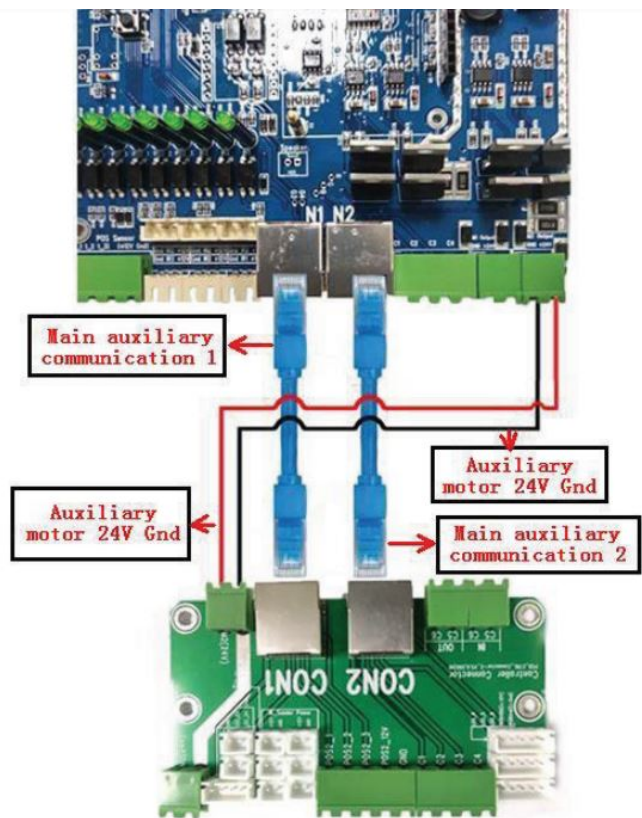


Fit expansion screws

- Confirm the lane lines, dig line pipe diameter into the appropriate PVC line pipe, each lane will AC220V power line RVV3*1.5mm and 3pcs CAT 5 cable for connect main machine , 1 PCS network cable for access control system (if install other control system according to the actual situation of laying related field the wire)
- Move each machine to the corresponding mounting position and point to the expansion bolt position
- Check again;
- Check each gate alignment, all lane are completed debugging and function test, then tighten the nut.

Connection

- Connect Cable between the master and the vice machine The main board is connected directly to the auxiliary board by a network cable.such as 1-1,2-



2(N1-CON1,N2-CON2) Refer to the following picture

(A1)single core

(A2)double core

(A3)double core

(A4)single core



Main board



Infrared sensor receiver



Credit card panel

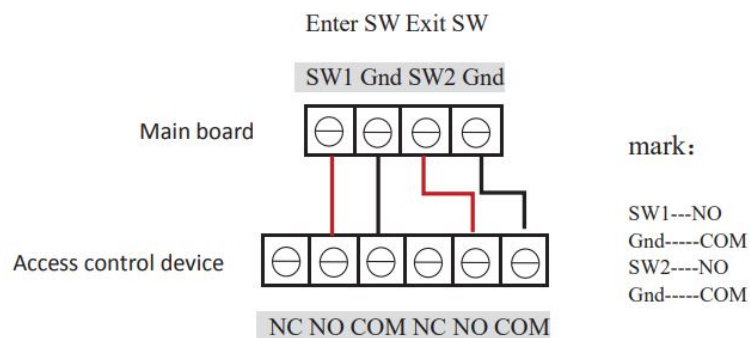


Auxiliary board



Infrared sensor receiver

- Connecting AC220V power input Connect the mater machie power adapter to 220V and connect the protective ground wire.
- Access control device connect Access control device send open signal to control board , gate will open immediately ,The relay time of access control



device must be set to 0-1 seconds

Debugging instruction

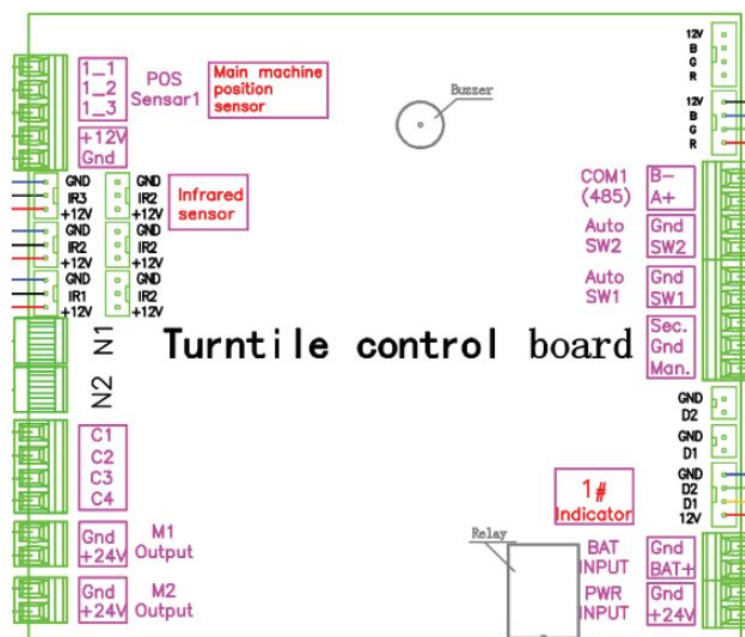
- Check wire Check whether the connection wire of the gate and the power line are properly connected before power on. If there is any abnormality on the power supply process, check the connection wires firstly;
- Function test After power on the machine will open- close, and open -close, this process 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;

- 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 shoot well ,please adjust to aligned.
- The relay time of access control device must be set to 0-1 seconds.
- 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
- 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.

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



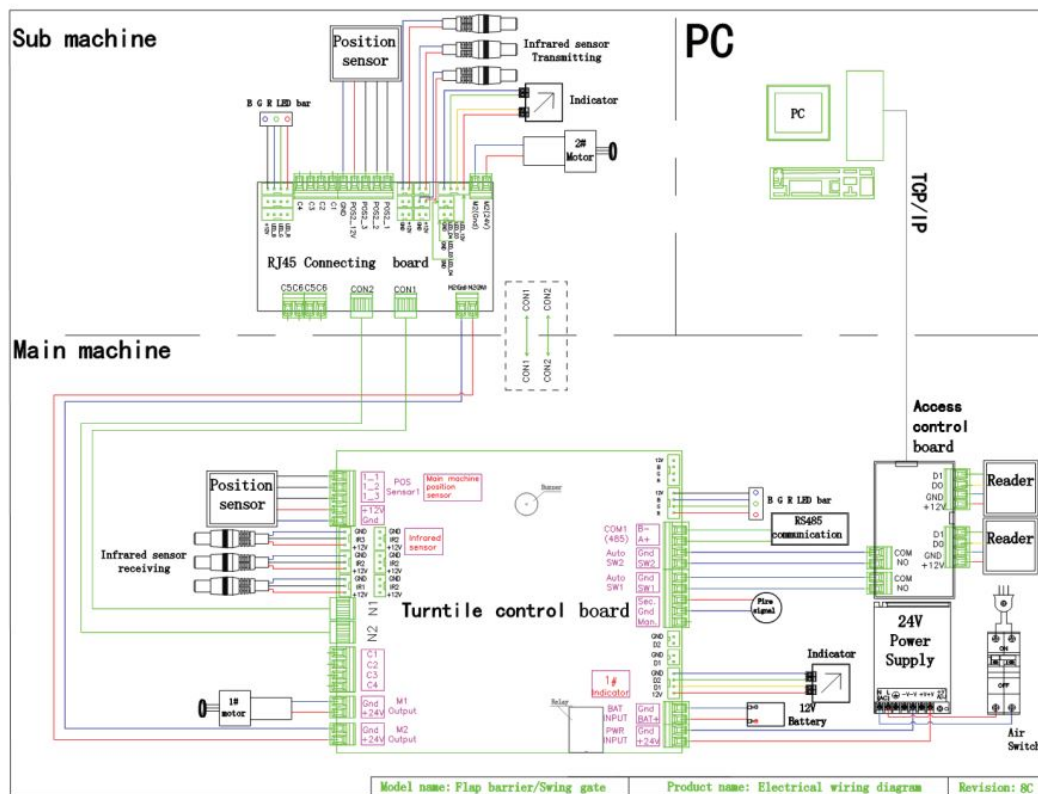
Main board

Board and parameter instruction

The connect board

Port	Instruction			mark
	1	+24V		Connect to 24V DC power
(1) PWR INPUT	2	GND	24VDC power supply	supply
	3	BAT+		Connect the 12V battery, Auto normally open when
(2) BAT INPUT	4	GND	12V battery input port	power off.
	5	+12V	Output for indicator of master machine	
(3) Entry	6	GND		
Indicator1	7	D1	D1 for enter direction	Connect to indicator of master machine
	8	D2	D2 for exit direction	
(4) Man	9	Man		Short for normally open ,
Gnd Sec	10	Gnd	Normally open input Fire alarm input	Close immediately when
	11	Sec		cancel
(5) Auto SW1	12	SW1		Connect to access device
	13	Gnd	Enter open signal input	NO-SW1 COM-Gnd
(6) Auto SW2	14	SW2		Connect to access device
	15	Gnd	Exit open signal input	NO-SW1 COM-Gnd

(7) COM1 485	16	A+		
	17	B	RS485 communication	Protocol docking
	18	R	Negative of LED red	
	19	G	Negative of LED green	
(8) RGB LED	20	B	Negative of LED blue	
	21	+12V	+12V for LED bar	Connect to LED bar
	22	1-1	left sensor Close sensor	Connect to position sensor of core in the master machine flap /slide gate only use two sensor(open and close)
	23	1-2	Right sensor	
24	1-3			
(9) POS Sensor1	25	+12V		
	26	GND	12V output for sensor	
	27	IR1	Enter infrared sensor	Control board alarm when sensor be block
	28	IR2	Pinch infrared sensor	
(10) IR Sensor	29	IR3	Exit infrared sensor	
	30	+12V		
	31	GND	12V output for infrared	
	32	D2	Output for indicator of master machine	
(11) N1 Entry Indicator 2	33	D1		Connect to indicator of master machine
	34	GND	D1 for enter direction	
POS Sensor2	35	+12V	D2 for exit direction	
	36	2-1	left sensor Close sensor	Connect to position sensor of core in the master machine flap /slide gate only use two sensor(open and close)
	37	2-2	Right sensor	
	38	2-3		
(12) N2	39	+12V		
	40	GND	12V output for sensor	
	41	C1		
	42	C2		
(13) M1 output	43	C3		
	44	C4	Reader reserve a place	
	45	R	Negative of LED red	
	46	G	Negative of LED green	
(14) M2 output	47	B	Negative of LED blue	
	48	+12V	+12V for LED bar	Connect to LED bar
(15) M3 output	49	GND	Motor output for mater machie	Connect to motor of master machine
	50	+24V		
(16) M4 output	51	GND		Connect to motor of vice machine
	52	+24V	Motor output for vice machie	



Wiring diagram

Parameter instruction

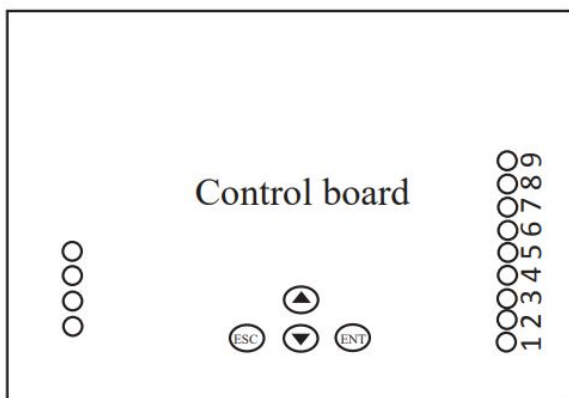
Description: the factory has been set up parameters, please do not modify, if you need to modify the parameters, please proceed under technical guidance. The display screen refers to the main control board of 3 LED display from left to right. Four buttons: up and down for switch, ENT for sub-menu, ESC for previous menu. Long press "ENT" 3 seconds unlock into the menu. Select advanced parameters, and long press "ENT + Down" 3 seconds unlock into the menu.

Menu Setting

Item	Explain
1. Parameters	
1.1 Counter	Display pass through count
	Set Gate Mode(NO, NC and card, free or reject) of enter and exit
	1.NC both Rej 2 .NC both free 3.NC both card (default)
	4 NC Card Free 5 .NC Card Rej 6. NC Free card 7.NC Free Rej 8.NC Rej Free 9.NC Rej Card
1.2 Gate Mode	10.NO Both Free 11.NO Both Card
	12.NO Card Free 13.NO Free Card
1.3 PassTimeout	Set maximum waiting time 10-255, unit 0.1s, (default 5seconds)
	Set Scan Card With Memory Mode
1.4 Memory	0 two-way disable(default), 1. enter allow, 2. exit allow, 3. two-way allow
	Set Can Scan Card After Entry Lane, Please do not modify
1.5 ReadIn Lane	1. disable (default), 2. allow
1.6 Open Delay	Set Authorized Open Door Delay 0-255, unit 0.1s, (default 0)
1.7 CLS. Delay	Set Close Door Delay After Passage Finish 0-255, unit 0.1s, (default 0)
1.8 Motor1 SPD.	Set master Motor basic speed 1-100
1.9 Motor2 SPD.	Set vice motor basic speed 1-100
1.10 Pass End	Set IR Check passage end position 1. exit (default), 1 safety
1.11 Intrude Set	Set Intrude Alarm Mode 1.no alarm, 2 .alarm (default), 3. alarm and close
	Set Passage From Reverse Alarm Mode
1.12 Reverse Set.	1 no alarm, 2. alarm, 3 alarm and close (default),
1.13 Tail-Gating	Set Tail-Gating Alarm Mode 1 no alarm, 2. alarm, 3 alarm and close (default),
1.14 Adv. Param.	

.1 EN_O_SPD.1	Set Motor 1 Speed when Open Door for Entry
.2 EN_C_SPD.1	Set Motor 2 Speed when Open Door for Entry
.3 EX_O_SPD.1	Set Motor 1 Speed when Close Door for Entry
.4 EX_C_SPD.1	Set Motor 2 Speed when Close Door for Entry
.5 EN_O_SPD.2	Set Motor 1 Speed when Open Door for Exit
.6 EN_C_SPD.2	Set Motor 2 Speed when Open Door for Exit
.7 EX_O_SPD.2	Set Motor 1 Speed when Close Door for Exit
.8 EX_C_SPD.2	Set Motor 2 Speed when Close Door for Exit
.9 Save Fact.	Save the current parameter to factory default Set add relay use for passed counter
.10 Relay Mode	1. disable,(default),2.Enter allow, 3.Exit allow ,4. both allow Set automatic report gate status when on change 1 disable (default), 2
.11 Auto Report	allow
.12 NO Direction	Set the normally open the gate opening direction , the default enter
.13 Power Lost	Set the normally open the gate opening direction when Power failure , the default enter
.14 Barriers	signal or double machine work 1 double (default) , 2 signal
.15 IR Speed	Set IR Sensor Sensitivity(1-100) 0-100(default 100)
.15 IR Type	Set infrared sensor type 1 PNP (default), 2 NPN
.16 IR Logic	Set Use Local IR Sensor Logic
.17 Motor Pro.	Set the motor over current protection threshold, the default 2.5A
.18 Self Check	Set use self check when power on, disabled by default
.19 LED Mode	Set LED indicator default parameter 1 Static LED,2 Square LED
.20 Set DevType	Set Controller Device Type 1 Tripod 2 Flap gate, 3 Swing gate
2. System Set	
2.1 Language	Set Menu Display Language
2.2 Device Type	Display Controller Device Type
2.3 Version	Display hardware and firmware version information
2.4 Set Address	Set Device Logic Address
2.5 RS485 Baud	Set the baud rate of the RS485
2.6 Reset	Reset all setting to factory default.
2.7 Restart	Restart controller
3. Factory Test	
3.1 Cycle Test	Open and close door cycle test
3.2 Input Check	Check input interface status
3.3 Output Test	Output interface test

Troubleshooting and maintenance



The box of control is buckle type ,It can open the upper cover of the buckle from the side.

- **Fault 1: Gate automatically open when people in to first sensor?**
 - **Answer** Change pass mode two way free to two way card in the menu.
- **Fault 2: swipe into the first sensor, Gate give alarm and close immediately?**
 - **Answer** This means that the signal connection is opposite, exchange the open signal connect terminal of SW1 Gnd to SW2 Gnd.
- **Fault 3: indicator light is not bright?**
 - **Answer** Take the other indicator or control board from other lane and check it
- **Fault 4: is there an indicator that shows the wrong direction?**
 - **Answer** Exchange the connect wire of indicator D1 to D2.
- **Fault 5: One side of the wing door does not work?**
 - **Answer**
 - Check whether the connection wires is loose;

- Turn off the power and use the millimeter to check whether the connection between the master machine and the vice machine is continuous ;
- Measure whether M1 or M2 has voltage output when restarting the power supply;
- Check fuse in the board.
- **Fault 6: open and close obvious non synchronization?**
 - **Answer**
 - Check whether the POS Sensor connect wires are loose;
 - Turn off the power and use the millimeter to check whether the connection between the master machine and the vice machine is continuous.
- **Fault 7: Motor idling?**
 - **Answer**
 - Check whether the POS Sensor connect wires are loose;
 - Turn off the power and use the millimeter to check whether the connection between the master machine and the vice machine is continuous.
 - Check the vice board 12VGND for voltage output
- **Fault 8: there is one side of barrier is not closed?**
 - **Answer**
 - Check whether the POS Sensor connect wires are loose;
 - Turn off the power and use the millimeter to check whether the connection between the master machine and the vice machine is continuous.
 - Check the vice board 12VGND for voltage output
- **Fault 9: swing the side of the pendulum rod can only open 90 degrees, or open the side of the pendulum rod hit the box?**
 - **Answer**
 - check the abnormal barrier and the normal one whether there is any difference between the fixed angles and whether the pendulum rod is struck or not
 - Check the iron sheet of core whether is loose, if loose readjust it.
- **Fault 10: The swing gate move slowly or shake or give big noisy?**
 - **Answer** Check core

Maintenance

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

- 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.
- 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;
 - 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.

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 Maintenance Maintenance Maintenance Unit

	Fault Description			
Date		Method	Man	Seal

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Documents / Resources



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