

# User Manual

## Mars-S100 Series

**Applicable Model(s):** Mars-100, Mars-S120

Date: July 2023

Doc Version: 1.2

English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



For further details, please visit our Company's website

[www.zkteco.in](http://www.zkteco.in)

Copyright © 2023 ZKTECO CO., LTD. All rights reserved.

Without the prior written consent of ZKTeco, no portion of this manual can be copied or forwarded in any way or form. All parts of this manual belong to ZKTeco and its subsidiaries (hereinafter the "Company" or "ZKTeco").

## Trademark

**ZKTeco** is a registered trademark of ZKTeco. Other trademarks involved in this manual are owned by their respective owners.

## Disclaimer

This manual contains information on the operation and maintenance of the ZKTeco equipment. The copyright in all the documents, drawings, etc. in relation to the ZKTeco supplied equipment vests in and is the property of ZKTeco. The contents hereof should not be used or shared by the receiver with any third party without express written permission of ZKTeco.

The contents of this manual must be read as a whole before starting the operation and maintenance of the supplied equipment. If any of the content(s) of the manual seems unclear or incomplete, please contact ZKTeco before starting the operation and maintenance of the said equipment.

It is an essential pre-requisite for the satisfactory operation and maintenance that the operating and maintenance personnel are fully familiar with the design and that the said personnel have received thorough training in operating and maintaining the machine/unit/equipment. It is further essential for the safe operation of the machine/unit/equipment that personnel has read, understood and followed the safety instructions contained in the manual.

In case of any conflict between terms and conditions of this manual and the contract specifications, drawings, instruction sheets or any other contract-related documents, the contract conditions/documents shall prevail. The contract specific conditions/documents shall apply in priority.

ZKTeco offers no warranty, guarantee or representation regarding the completeness of any information contained in this manual or any of the amendments made thereto. ZKTeco does not extend the warranty of any kind, including, without limitation, any warranty of design, merchantability or fitness for a particular purpose.

ZKTeco does not assume responsibility for any errors or omissions in the information or documents which are referenced by or linked to this manual. The entire risk as to the results and performance obtained from using the information is assumed by the user.

ZKTeco in no event shall be liable to the user or any third party for any incidental, consequential, indirect, special, or exemplary damages, including, without limitation, loss of business, loss of profits, business interruption, loss of business information or any pecuniary loss, arising out of, in connection with, or

relating to the use of the information contained in or referenced by this manual, even if ZKTeco has been advised of the possibility of such damages.

This manual and the information contained therein may include technical, other inaccuracies or typographical errors. ZKTeco periodically changes the information herein which will be incorporated into new additions/amendments to the manual. ZKTeco reserves the right to add, delete, amend or modify the information contained in the manual from time to time in the form of circulars, letters, notes, etc. for better operation and safety of the machine/unit/equipment. The said additions or amendments are meant for improvement /better operations of the machine/unit/equipment and such amendments shall not give any right to claim any compensation or damages under any circumstances.

ZKTeco shall in no way be responsible (i) in case the machine/unit/equipment malfunctions due to any non-compliance of the instructions contained in this manual (ii) in case of operation of the machine/unit/equipment beyond the rate limits (iii) in case of operation of the machine and equipment in conditions different from the prescribed conditions of the manual.

The product will be updated from time to time without prior notice. The latest operation procedures and relevant documents are available on <http://www.zkteco.in>

If there is any issue related to the product, please contact us.

## ZKTeco Biometrics India Pvt Ltd.

**Address** B-1, Khata No. 31, Devasandra Industrial Estate,  
Whitefield Main Road, Beside Phoenix mall,  
Mahadevapura, Bengaluru-560048, Karnataka, India.

**Phone** 080 6828 1342

For business-related queries, please write to us at: [sales@zkteco.in](mailto:sales@zkteco.in).

To know more about our global branches, visit [www.zkteco.com](http://www.zkteco.com).

## About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

## About the Manual

This manual introduces the operations of **Mars-S100 Series**.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

Features and parameters with ★ are not available in all devices.






## Document Conventions

Conventions used in this manual are listed below:

### GUI Conventions

For Software	
Convention	Description
<b>Bold font</b>	Used to identify software interface names e.g. <b>OK</b> , <b>Confirm</b> , <b>Cancel</b> .
>	Multi-level menus are separated by these brackets. For example, File > Create > Folder.
For Device	
Convention	Description
< >	Button or key names for devices. For example, press <OK>.
[ ]	Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window.
/	Multi-level menus are separated by forwarding slashes. For example, [File/Create/Folder].

### Symbols

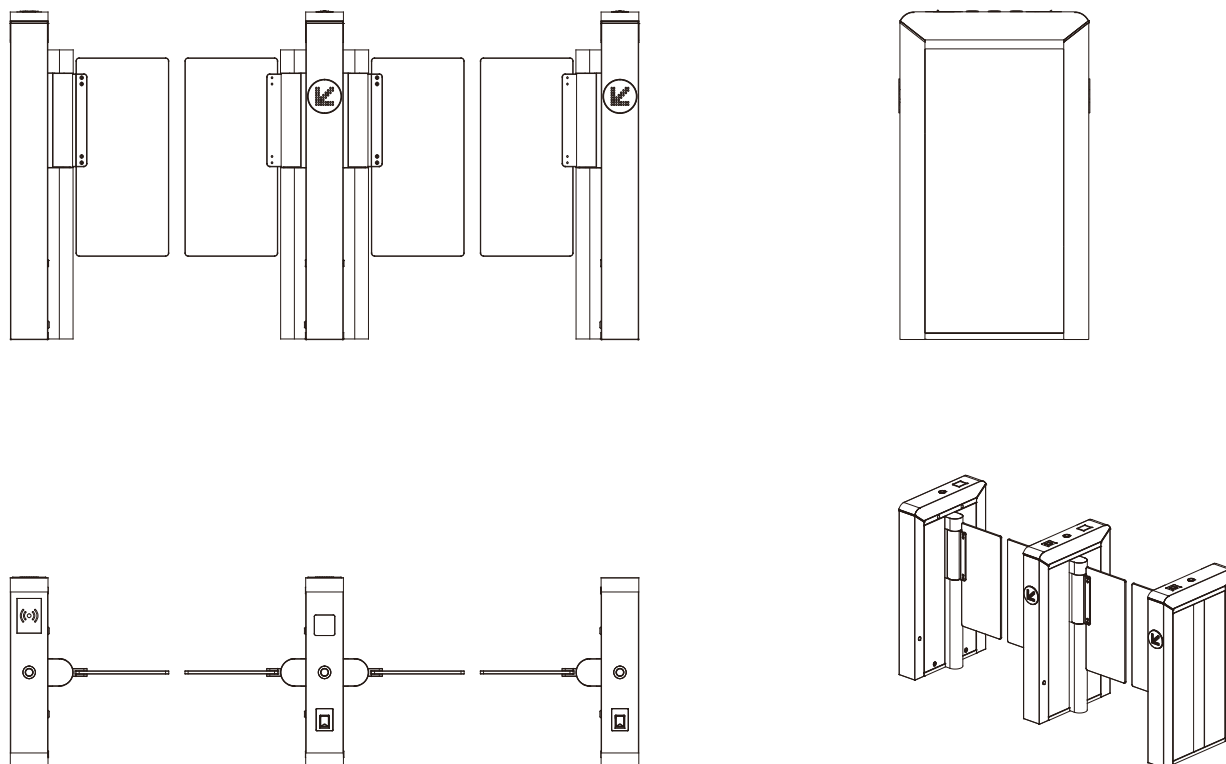
Convention	Description
	This represents a note that needs to pay more attention to.
	The general information which helps in performing the operations faster.
	The information which is significant.
	Care taken to avoid danger or mistakes.
	The statement or event that warns of something or that serves as a cautionary example.

## Table of Contents

<b>1</b>	<b>OVERVIEW.....</b>	<b>7</b>
1.1	FEATURES .....	7
1.2	APPEARANCE AND SYSTEM COMPONENTS .....	8
1.2.1	APPEARANCE.....	8
1.2.2	SYSTEM COMPONENTS .....	9
1.3	MECHANICAL SYSTEM.....	9
1.4	ELECTRONIC CONTROL SYSTEM .....	10
1.5	WORKING PRINCIPLE.....	10
1.6	SYSTEM COMPOSITION.....	11
1.7	TECHNICAL SPECIFICATIONS .....	12
<b>2</b>	<b>FUNCTION INTRODUCTION .....</b>	<b>14</b>
2.1	FINGERPRINT VERIFICATION★ .....	14
2.2	CARD VERIFICATION★.....	15
2.3	QR CODE VERIFICATION★ .....	16
2.4	FACIAL VERIFICATION★ .....	17
<b>3</b>	<b>CONTROL SYSTEM INTRODUCTION .....</b>	<b>19</b>
3.1	PGIC10-SV★ .....	19
3.2	MASTER/SLAVE MOTOR DRIVING CONTROLLER.....	21
3.3	IR BOARD .....	23
3.4	WIRING DIAGRAM.....	25
3.5	MENU OF SPEED GATE .....	26
3.6	ERROR CODE FOR TURNSTILE.....	37
<b>4</b>	<b>MAINTENANCE .....</b>	<b>38</b>
4.1	CHASSIS MAINTENANCE .....	38
4.2	MOVEMENT MAINTENANCE.....	38
4.3	POWER SUPPLY MAINTENANCE .....	38
<b>5</b>	<b>TROUBLESHOOTING.....</b>	<b>39</b>
<b>6</b>	<b>PACKING LIST .....</b>	<b>40</b>

# 1 Overview

The Mars-S100 Series speed gates are an elegant and cost-effective entrance control system designed for high-traffic volume. These speed gates are normally held in a locked position, thus denying access to the secured side.



## 1.1 Features

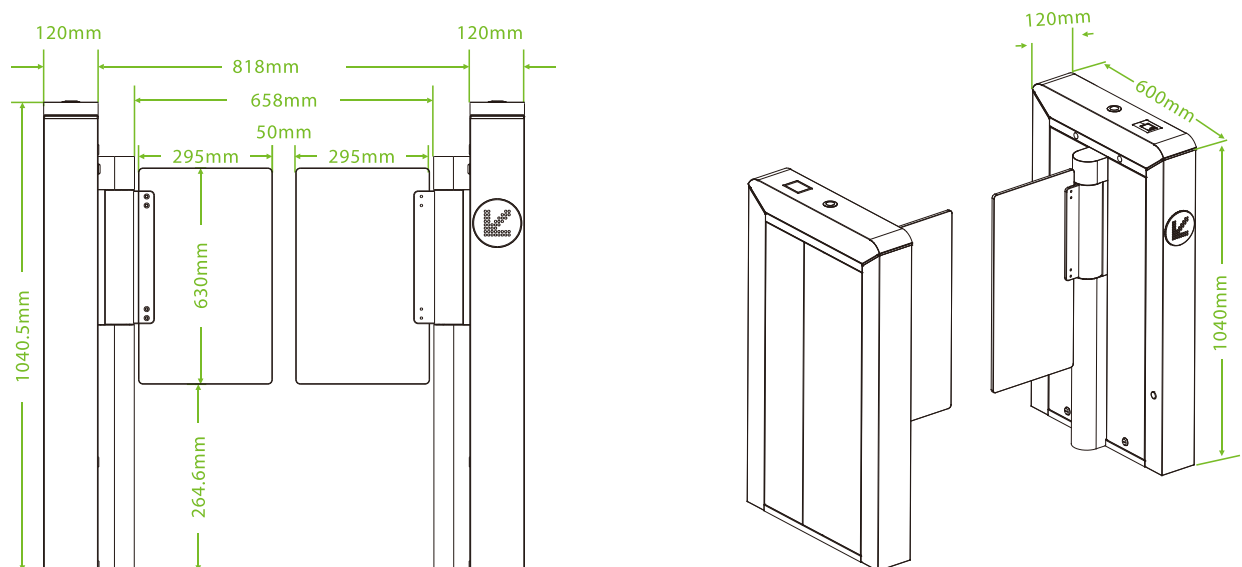
- Long service life, capable of opening and closing the gate more than 5 million times when measured.
- With multi alarm function, such as break-in, wrong direction entry and door open overtime.
- With emergency mode that gate automatically open if power off or fire signal trigger.
- Security function prevent people break-in gate, due to the gate have equipped with a pair of clutches, it will engage if barrier was forced and automatically reset after engaged.
- Self-protection function to prevent strong intrusion, excessive current and other special circumstances, such as damage to the product, death, etc.
- Multiple anti-pinch function, reasonable distribution of infrared, to protect the safety of pedestrian passage within the infrared anti-pinch, blocking anti-pinch infrared secondary open.
- Unload the force when encountering blocking to prevent bruising pedestrians.

- Combined with peripheral verification devices, it supports face, human ID, swipe card, ESD device, sweep code and other verification methods.
- Normally open/normally closed function switching, suitable for different places.
- With memory function, it can pass multiple people after several consecutive swipes.
- Development interfaces are available for system integration.
- SUS304 stainless steel case that ensures long-lasting durability.
- Beautiful and generous, the device run smoothly, silently and consumes low power.
- With a clear indication of the direction of passage, the standard arrow indicator, the passage state green passage arrow, abnormal state red prohibition of passage arrow.

## 1.2 Appearance and System Components

### 1.2.1 Appearance

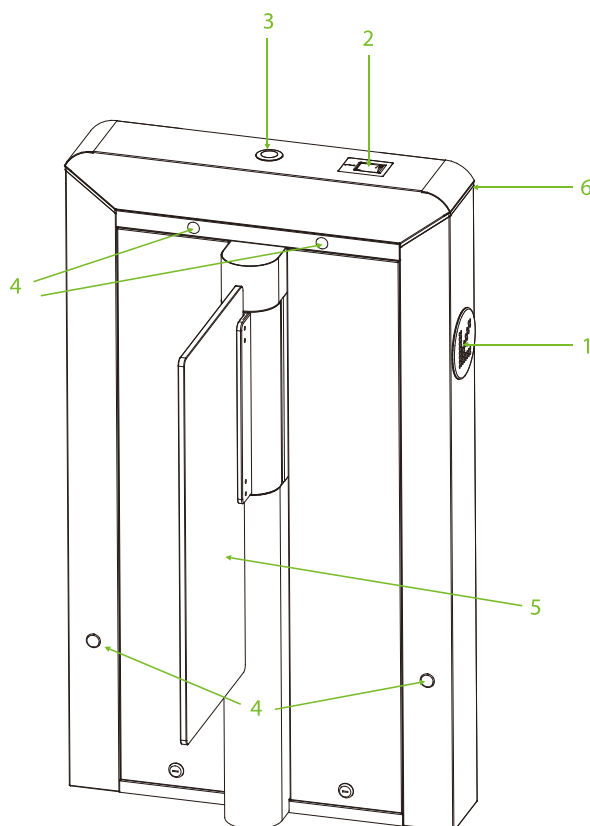
The appearance and dimensions of the Mars-S100 series are shown in the figure below:





## 1.2.2 System Components

The system components of the Mars-S100 series are shown below:



<b>1. Traffic indicator</b>	<b>2. Verification units★</b>
<b>3. Reserved hole for face device</b>	<b>4. Infrared sensor</b>
<b>5. Barrier</b>	<b>6. Pass through indicator</b>

## 1.3 Mechanical System

The mechanical system of the turnstile consists of the chassis and the core component. The chassis is a carrier where the Traffic Indicator, Reader★, QR code scanner★, Fingerprint reader★, Infrared Sensor and the Door lock are installed. The core component mainly consists of the Motor, Frame, Bearing and Swing Arm.

## 1.4 Electronic Control System

The electronic control system of a turnstile is mainly composed of the Reader★/QR code scanner★/Fingerprint reader★, Infrared Sensor, Turnstile Control Board, Traffic Indicator and Alarm.

**Reader★:** The reader reads the data on the card and transmits it to the Access Controller.

**Fingerprint Reader★:** The device compares the fingerprint that is being pressed onto the fingerprint reader with all the fingerprint data and sends it to the Access Controller.

**QR code Reader★:** The device compares the acquired QR code with all QR code data registered in the device and sends it to the Access Controller.

**Infrared Sensor:** It detects the position of the pedestrian and plays a role in ensuring safety and protection.

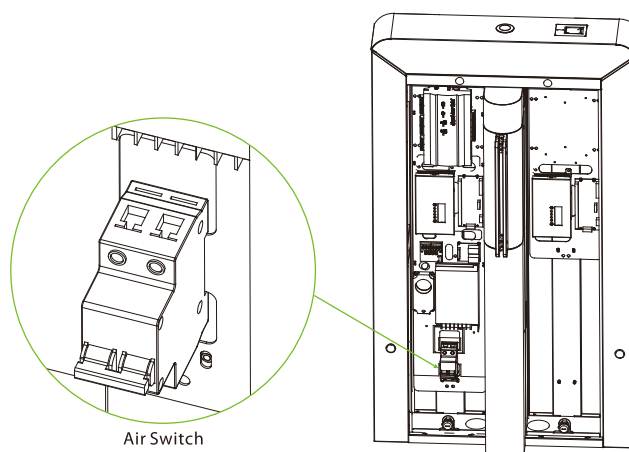
**Turnstile Control Board:** The Turnstile control board is the system's control center that receives signals from the Card reader★/fingerprint reader★/QR code reader★. The IR performs logical calculation and processing these signals and then sends executive commands to the Traffic Indicator, Electric Motor, and alarm.

**Traffic Indicator:** When the gate is closed, the system will illuminate the red indicator. However, when someone successfully passes the verification, the system will illuminate the green indicator.

**Alarm:** The alarm gives the voice and light alarm if the system detects any unauthorized entry to the passage, false direction entry, anti-tailgate and other violations.

## 1.5 Working Principle

1. When the device is powered on, it undergoes a Power-On Self-Test (POST). If no issues are detected during the test, the device will operate normally. If a failure is detected, the system will display relevant error messages on the digital tube, allowing the user to quickly identify and resolve the problem.



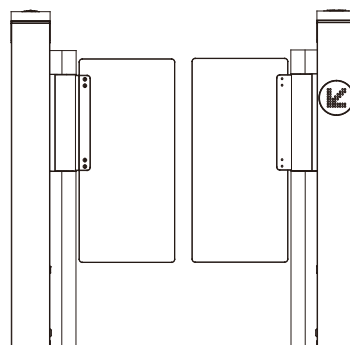
2. When a valid card★/fingerprint★/QR code★, the display will show whether it is successful or not, the buzzer will give a positive audible prompt to the pedestrian, indicating that successfully verified. And then, the card reader★/fingerprint reader★/QR code reader★ sends signals to the Access Controller to request permission to pass through the passage. The Access Controller will send the signal to the Turnstile Control Board.
3. After receiving the signal from the card★/fingerprint★/QR code★ and the Infrared Sensor, the Turnstile Control Board will send valid control signals to the servo motor driver. At this time, if the system is in forbidden passing mode, the mode indicator light will turn red, and the Turnstile Control Board will not accept signals of card★/fingerprint★/QR code★.
4. Once the passenger passes through the channel in accordance with the opening direction of the swing arm, the Infrared Sensor will continuously monitor the pedestrian's movement throughout the passage. It will continue to send signals to the Turnstile Control Board until the pedestrian completes the passage.
5. If the pedestrian enters the passage without verifying their identification or presents an invalid card★/fingerprint★/QR code★ the system will sound an audible alarm to alert the pedestrian to stop. The alarm signal will persist until the pedestrian retreats from the passage. Only after a card★/fingerprint★/QR code★ is successfully verified can the pedestrian process through the passage.

**Note:** Make sure the ground wire of the system is reliably connected to avoid personal injuries or other accidents.

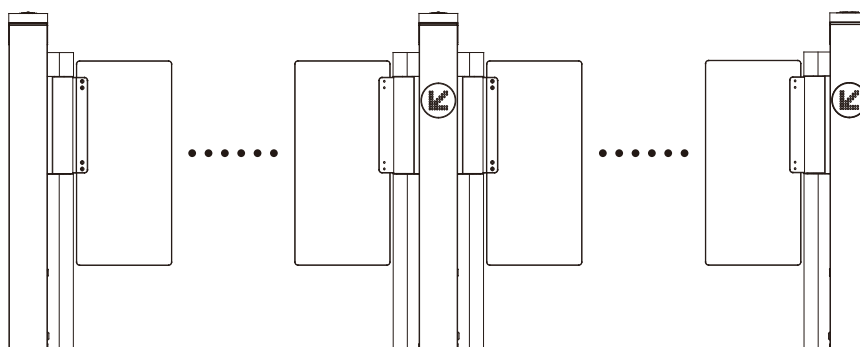
## 1.6 System Composition

The single-passage management system consists of two single-core speed gates. The multi-passage management system consists of two single-core speed gates and multiple dual-core speed gates.

- **The single-lane management system:**



● **The multi-lane management system:**



## 1.7 Technical Specifications

Feature	Specification
Communication	TCP/IP, RS485, 4G/WIFI
Input Voltage	AC110V/240V, 50/60Hz
Input Control Signal	Switching signal
Output Voltage	DC 24V
Time of Gate Opening/Closing	0.8 Sec (Adjustable)
Operating Humidity	5% to 80% (Non-condensing)
Operating Temperature	-28°C to 60°C (Standard)
Throughput Rate	Up to 25 people/min (Using credential)
Drive Unit	Brushless Motor
Infrared Sensor	4 pairs
LED Indicator	Support
Working Environment	Indoor
Drive Unit	Brushless motor

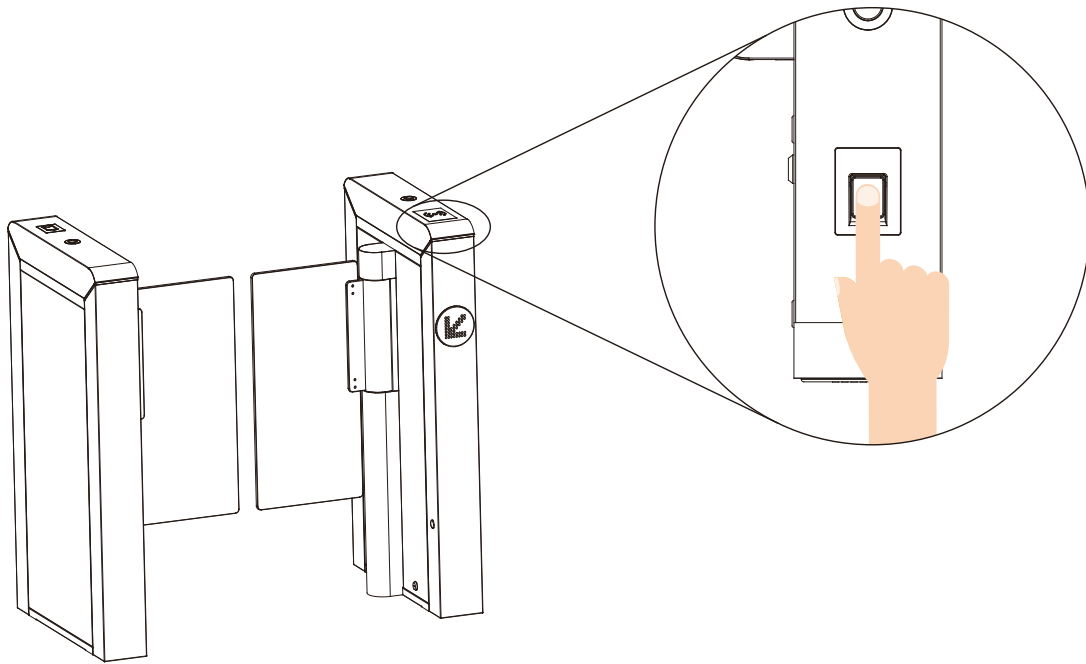
Barrier Movement	Swing
Lane Width	660mm (Option: 900mm)
MCBF	5 millions
Dimension (mm) (L*W*H)	600*120*1040
Dimensions with Packaging (L*W*H)	762*362*1040(mm) (2 boxes)
Net Weight	50kg ( $\pm 5$ kg)
Gross Weight	64kg ( $\pm 5$ kg)
Noise	<60dB
Certifications	CE and FCC
Traffic Indicator	Green: Lane available Red: Lane unavailable

## 2 Function Introduction

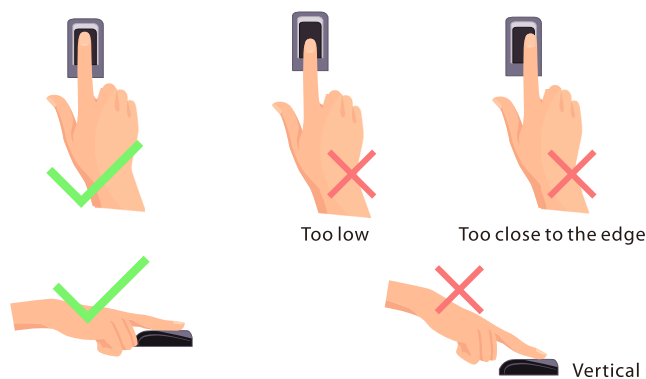
### 2.1 Fingerprint Verification★

In this verification mode, the device compares the fingerprint that is being pressed onto the fingerprint reader with all the fingerprint data sends and it to the Access Controller.

The device enters the fingerprint authentication mode when a user presses their finger onto the fingerprint scanner.

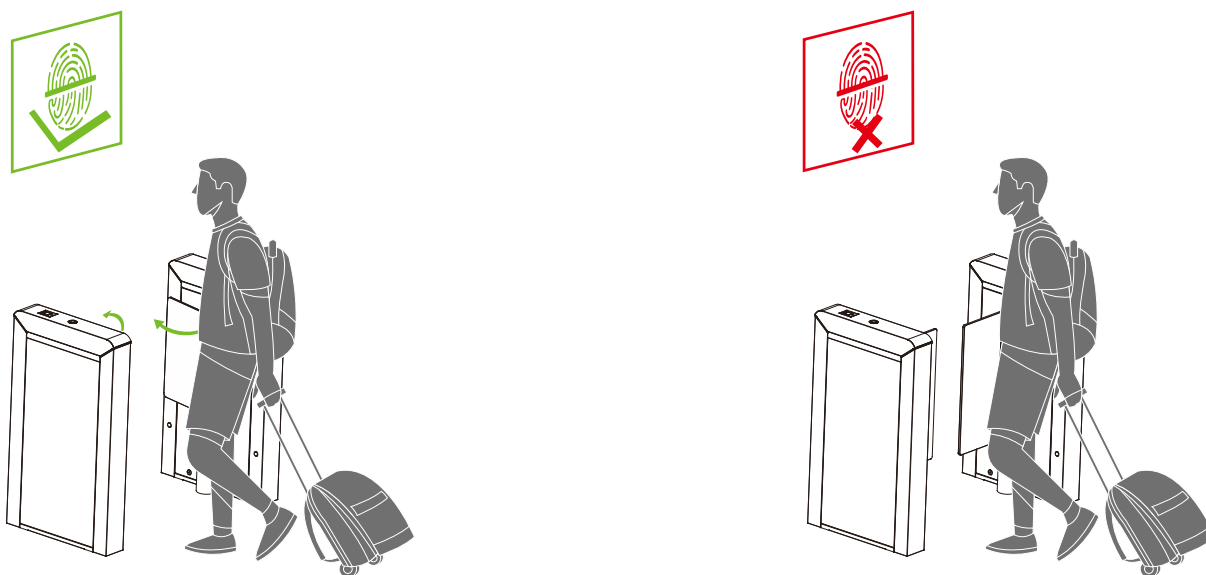


**Recommended fingers:** It is recommended to use index, middle, or ring finger for registration and avoid using the thumb or little finger, as they are difficult to accurately press onto the fingerprint reader.



**Note:** Please ensure that you use the correct method when pressing your fingers onto the fingerprint reader for registration and identification. It is important to follow the proper guidelines to avoid any recognition issues. Please note that our company will not be liable for any recognition

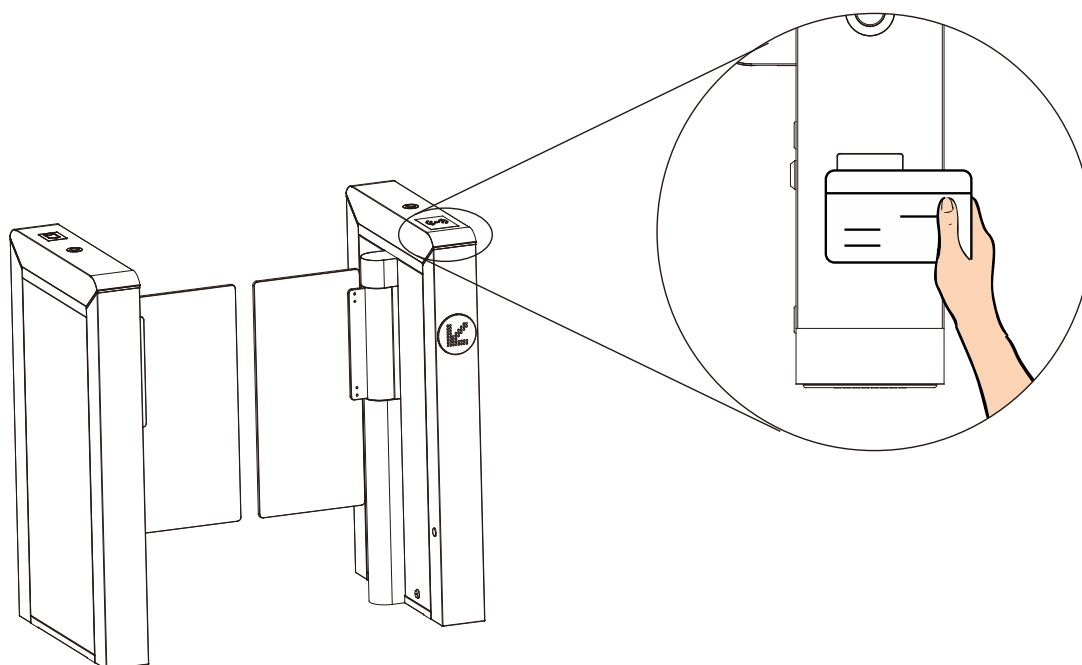
issues that may arise from incorrect usage of the product. We reserve the right to make the final interpretation and modifications regarding this matter.

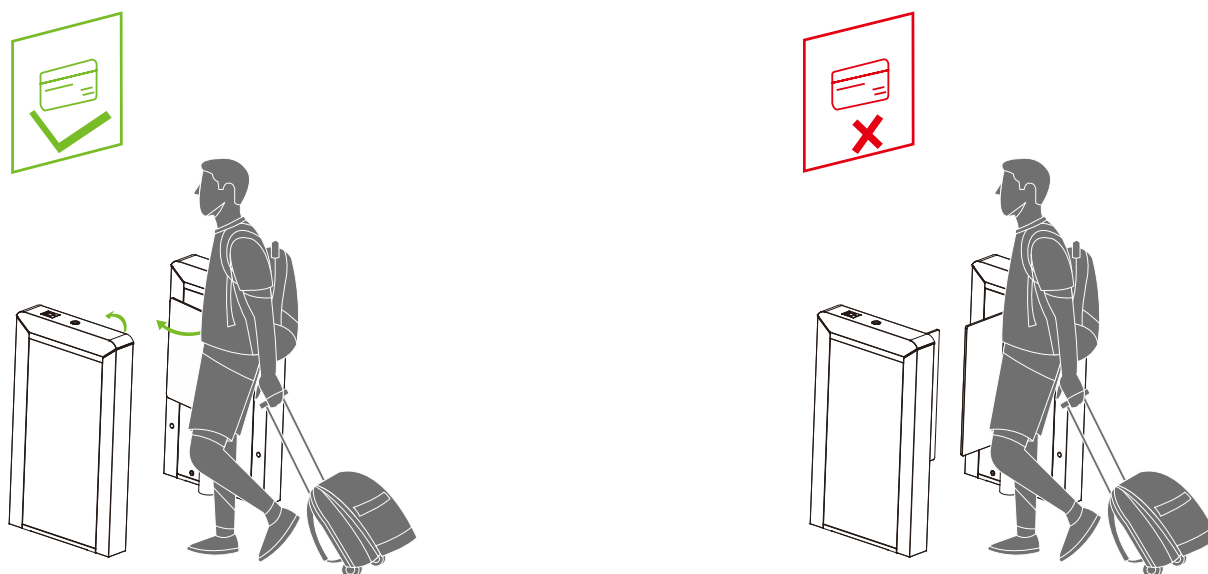


## 2.2 Card Verification★

In the Card Verification mode, the device compares the card number in the card induction area with all the card number data registered in the device and sends it to the Access Controller.

When a user presses their card on the card reading area, the device enters card authentication mode.

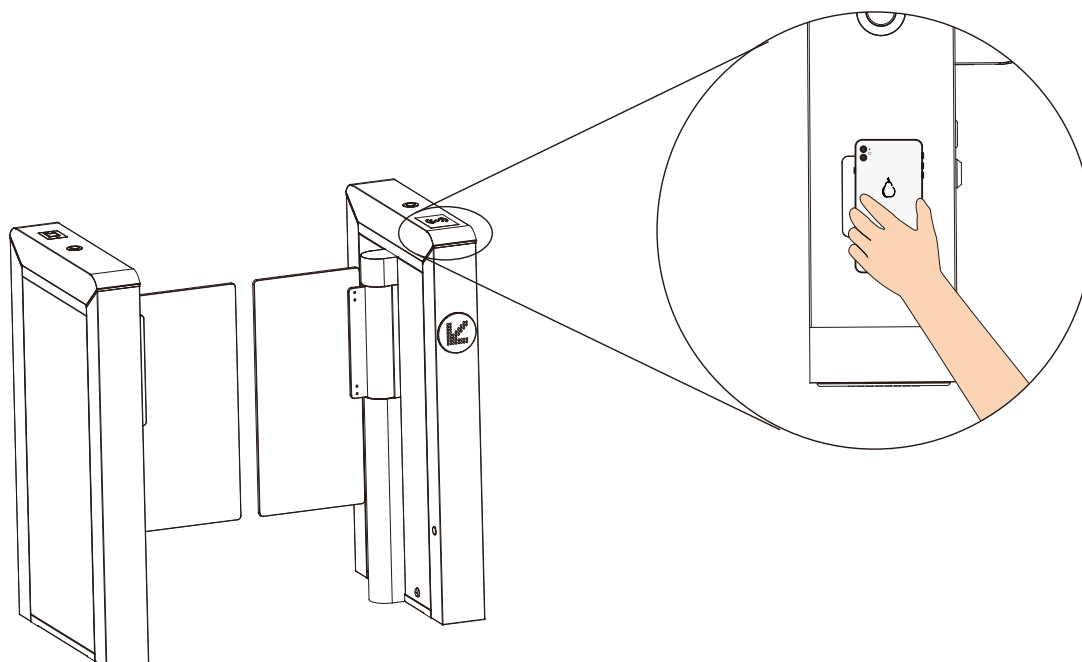




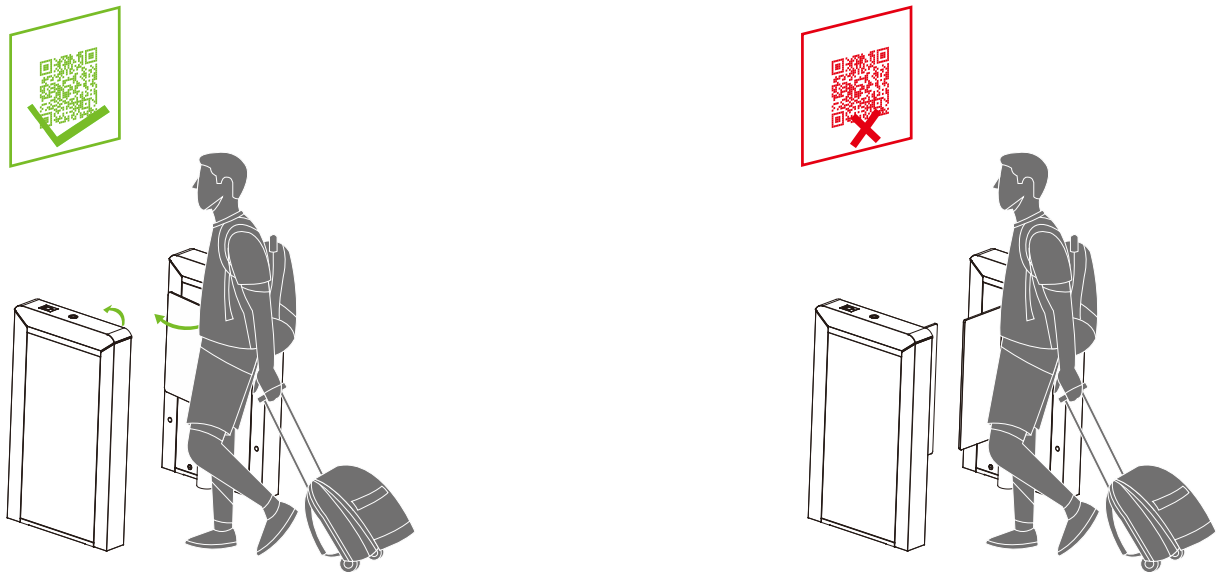
## 2.3 QR code Verification★

In the QR code Verification mode, the device scans the QR code on the user's mobile phone using the QR code scanner. It then compares the scanned data with the registered QR code and sends the result to the Access Controller.

When the user places the mobile phone displaying the QR code on top of the QR code scanner, the device enters the QR code authentication mode.







## 2.4 Facial Verification★

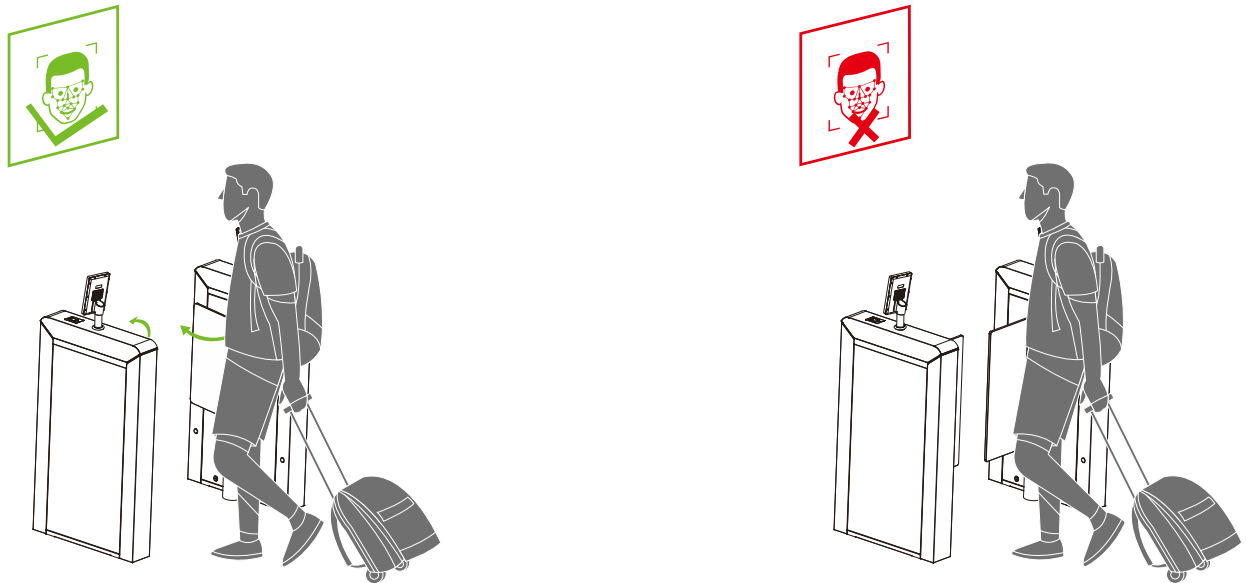
In this verification mode, the device compares the collected facial images with all registered face data in the device and then sends it to the Access Controller.

Please try to keep your face centred on the screen during authentication. When registering your face, ensure that you face towards the camera and remain still.

Recommended Standing Posture and Facial Expression:

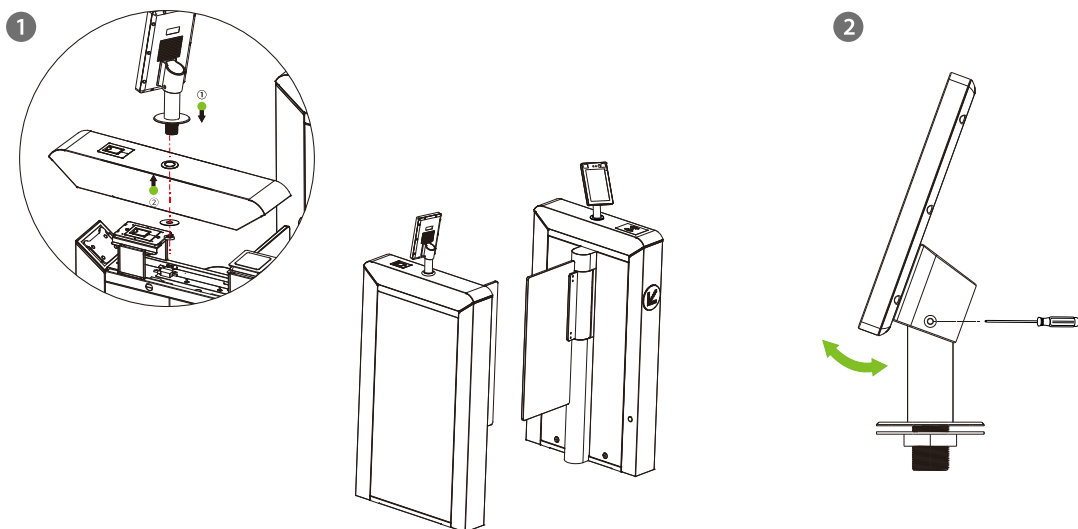


**Note:** Please keep your facial expression and standing posture natural while enrollment or verification.



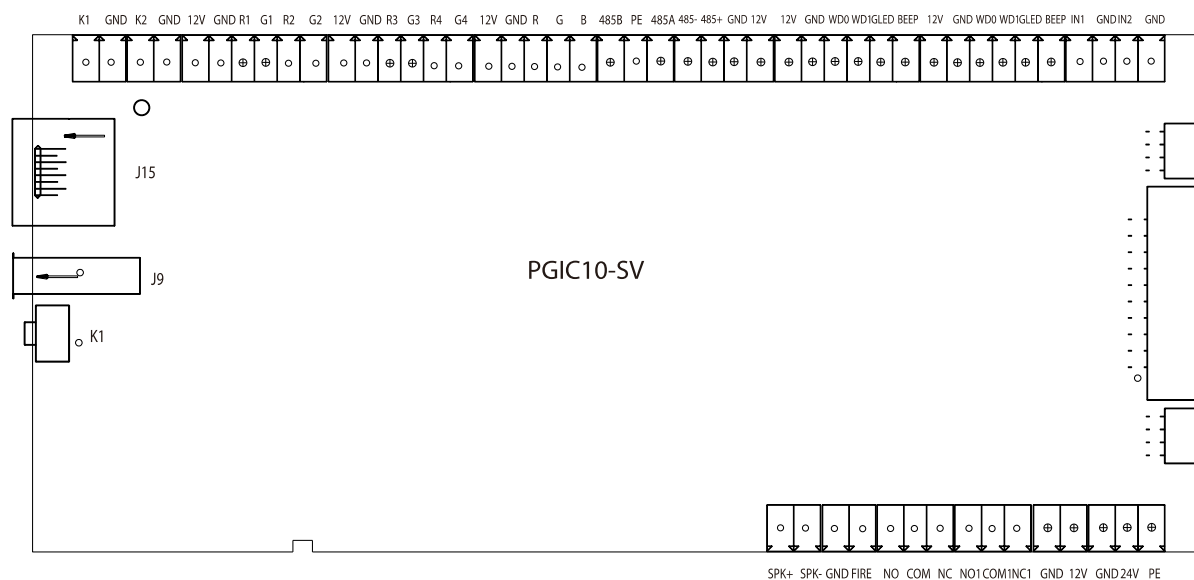
### Installation on the speed gate:





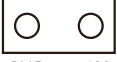
1. Before installation, please pass the wire through the bracket.
2. Insert the bracket into the hole and fix it with a nut.
3. Adjust the angle of the device.









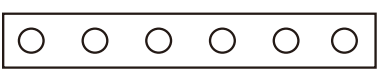


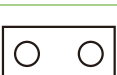


### 3 Control System Introduction

#### 3.1 PGIC10-SV★

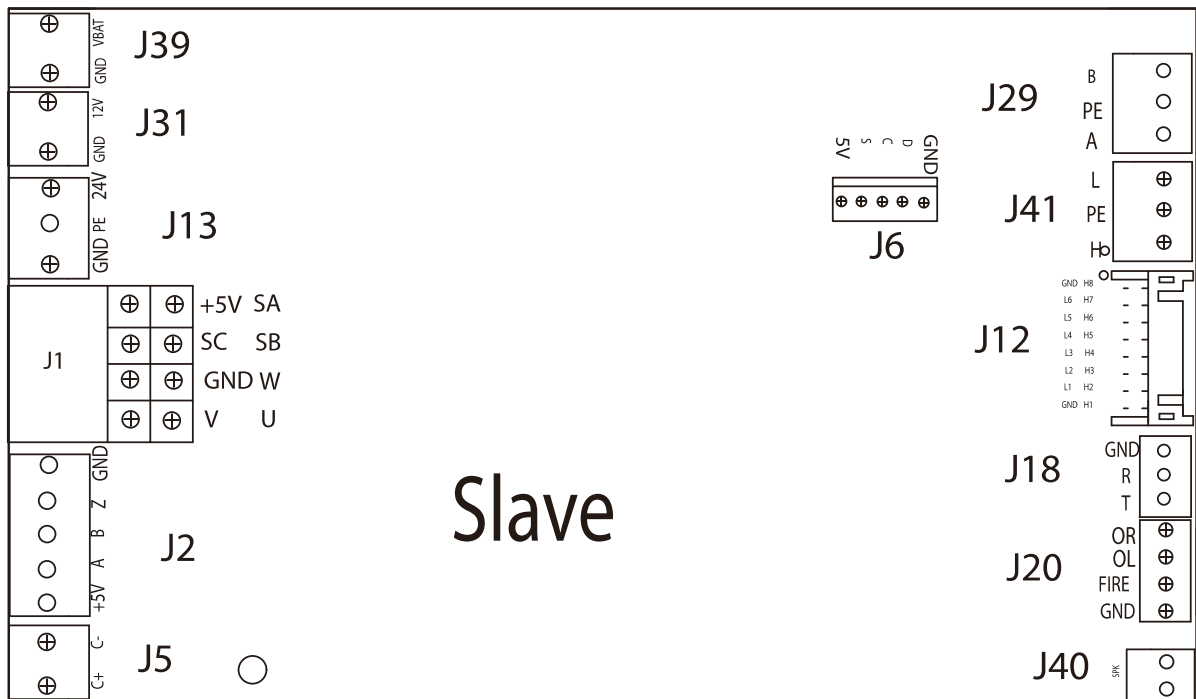
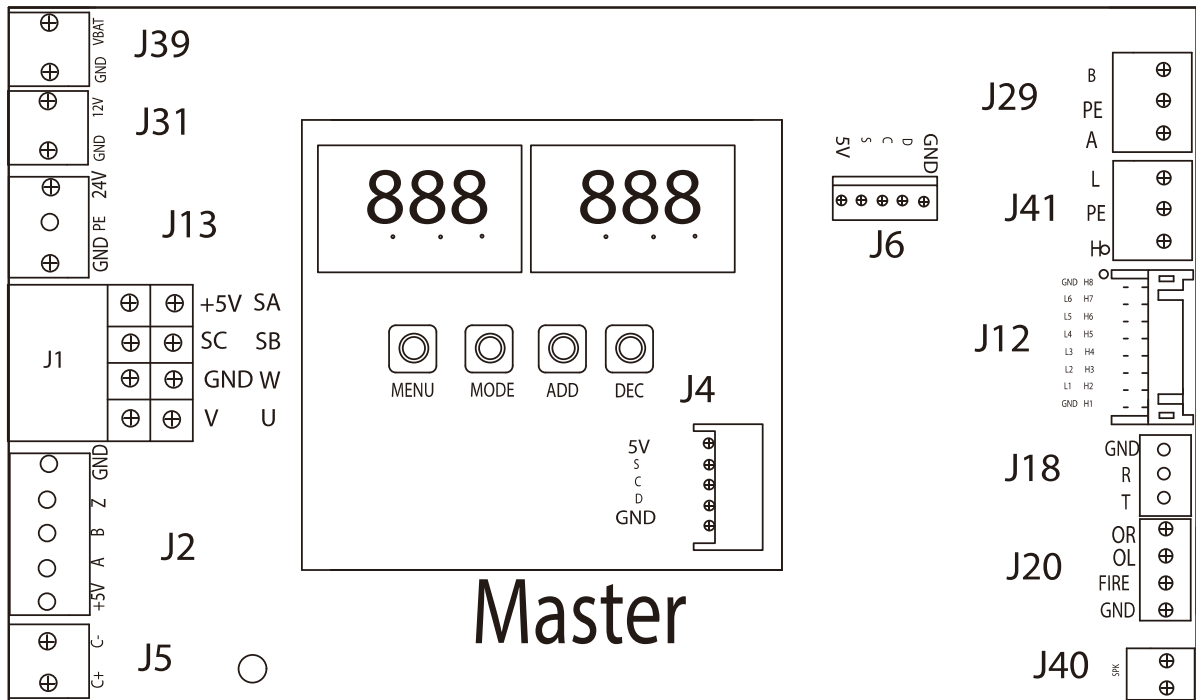


Terminal	Description
J15	Ethernet/POE interface
J9	USB Slot
K1	Reset
 SPK+ SPK-	Speaker
 GND FIRE	Fire signal
 NO COM NC	Auxiliary output
 NO1 COM1 NC1	Auxiliary output
 GND 12V	12V DC power supply

 <p>GND 24V PE</p>	24V DC power supply
	IR sensor
 <p>IN1 GND IN2 GND</p>	Auxiliary input
 <p>12V GND WD0 WD1 GLED BEEP</p>	Wiegand reader
 <p>12V GND WD0 WD1 GLED BEEP</p>	Wiegand reader
 <p>485- 485+ GND 12V</p>	Exit RS485
 <p>485B PE 485A</p>	RS485
 <p>12V GND R G B</p>	Status indicator
 <p>12V GND R3 G3 R4 G4</p>	Exit or entry status indicator
 <p>12V GND R1 G1 R2 G2</p>	Exit or entry status indicator
 <p>K2 GND</p>	Door
 <p>K1 GND</p>	Door

Embedded linux operating system. It has a 2.8-inch touch screen (the display screen) where the parameters can be set via touch screen.

## 3.2 Master/Slave Motor Driving Controller





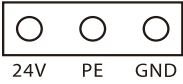
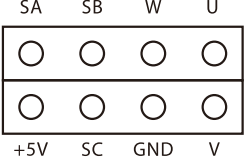
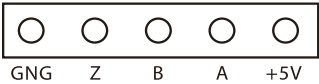
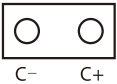
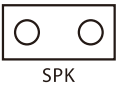


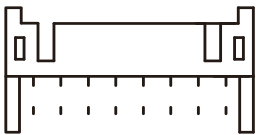
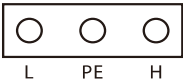
There are 4 keys on the master motor driving controller, "MENU", "MODE", "ADD" and "DEC".

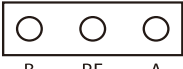
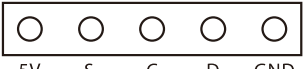
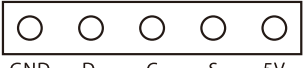
**MENU:** It is used for enter the Settings menu and to confirm the current modified value.

**MODE:** It is used to go back to the previous menu and discard the current operation.

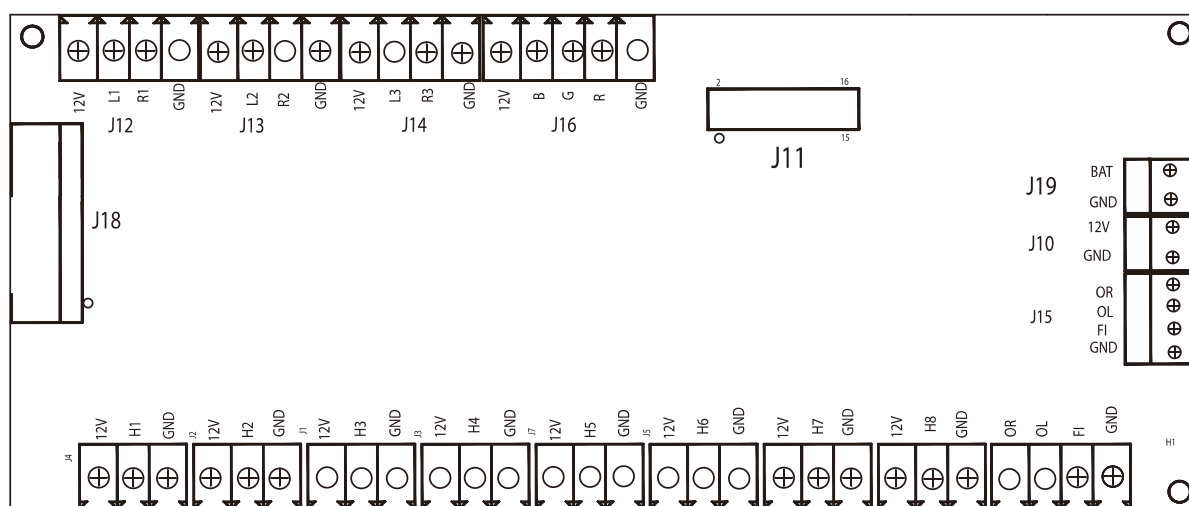
**ADD:** It is used for navigating to the upper menu item and increasing the value.





**DEC:** It is used for navigating to the lower menu item and decreasing the value.



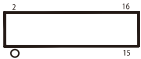
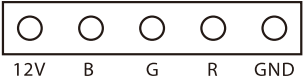
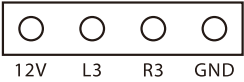
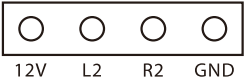

Terminal		Description
 BAT GND	J39	Power out
 12V GND	J31	Power out
 24V PE GND	J13	24V DC power supply
 SA SB W U +5V SC GND V	J1	Motor
 GNG Z B A +5V	J2	Encoder for speed gate
 C- C+	J5	Clutch
 SPK	J40	Speaker
 OR OL FIRE GND	J20	Fire power supply for speed gate
 GND R T	J18	RS232 communication between master and slave drives
 	J12	Infrared sensor receiving port
 L PE H	J41	RS485 communication between master and slave drives

 <p>B PE A</p> <p>J29</p>	RS485 communication
 <p>5V S C D GND</p> <p>J4</p>	Power supply for master motor driving controller display
 <p>GND D C S 5V</p> <p>J6</p>	Power supply for master motor driving controller display

### 3.3 IR Board

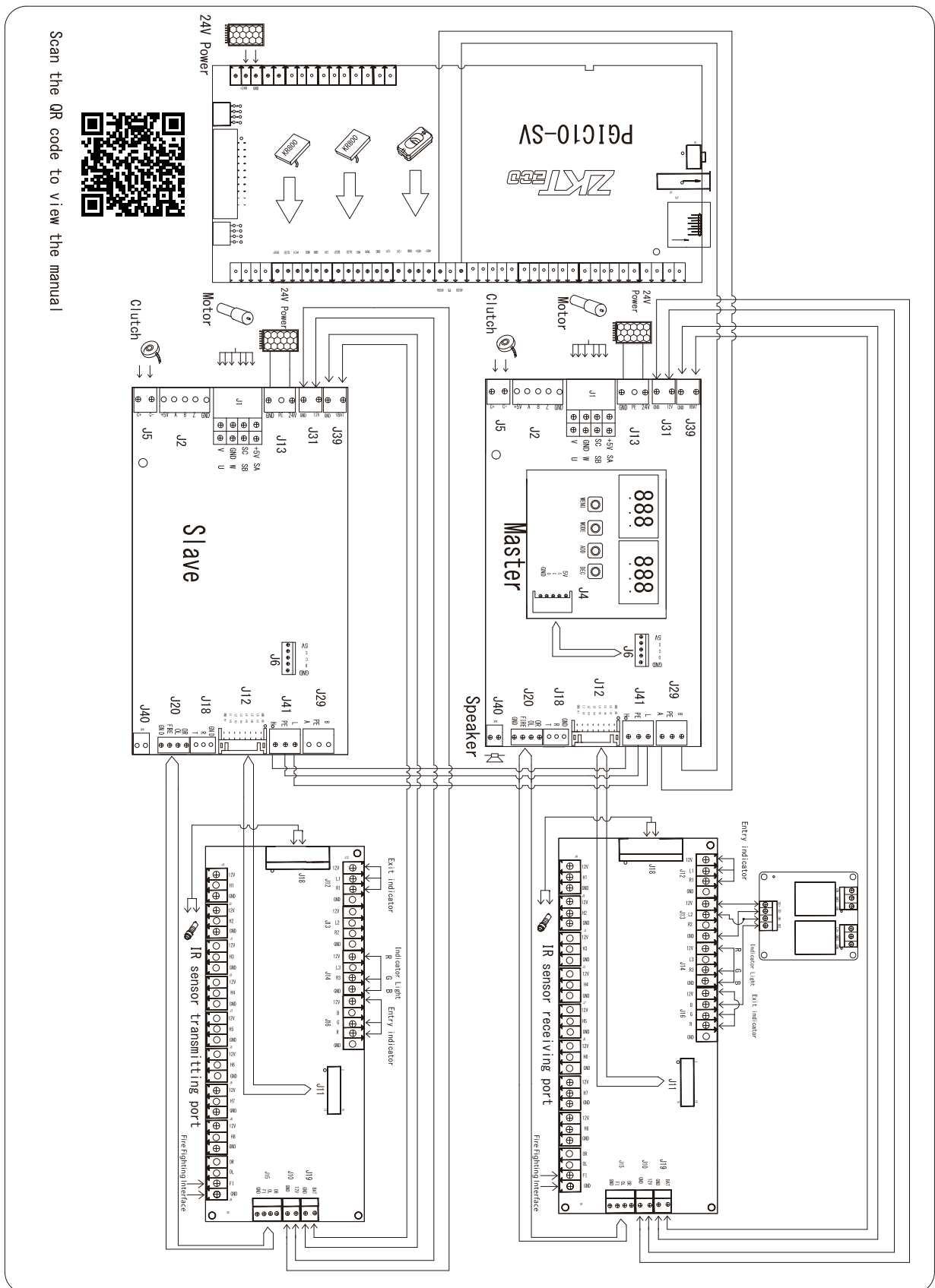


Terminal	Description
 <p>J18</p>	Connecting IR sensor receiving port
 <p>12V H GND X 8</p> <p>J15</p>	IR sensor receiving port
 <p>J15</p>	Firefighting interface
 <p>J15</p>	Fire power supply for speed gate

	J10	Power in
	J19	Power in
	J11	Infrared sensor transmitting port
	J16	Entry indicator
	J14	Indicator Light
	J13	Reserved
	J12	Entry indicator



### 3.4 Wiring Diagram



### 3.5 Menu of Speed Gate

#### Display Mode (01EXXX)

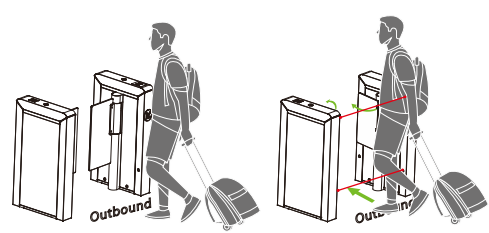
- (01E000) Displays current position of the gate (Default).
- (01E001) Infrared input signal.
- (01E002) Controls input signal.
- (01E003) Test mode (the digital LED displays "---" in the test mode).
- (01E004) Version number.

#### Opening Mode Setting (02EXXX)

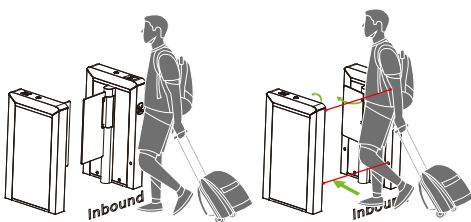
- (02E001) Two-way controlled, both need verification (Default).



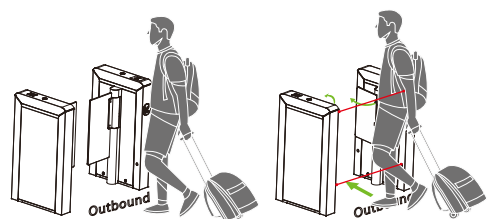
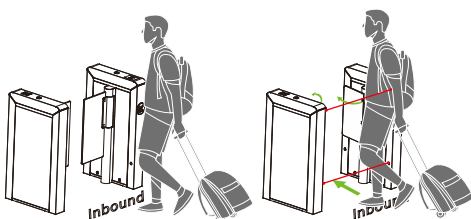
- (02E002) In need verification, out free.



- (02E003) In free, out need verification.



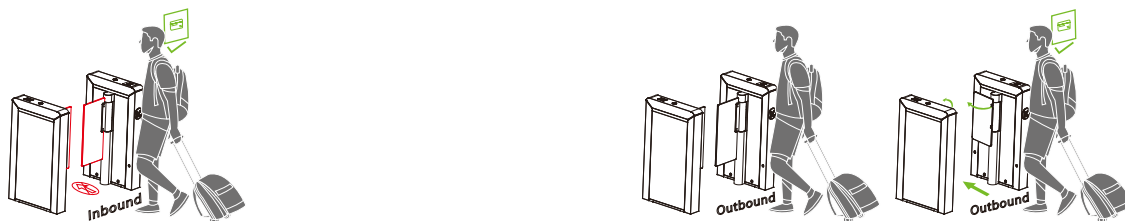
- (02E004) Two-way free.



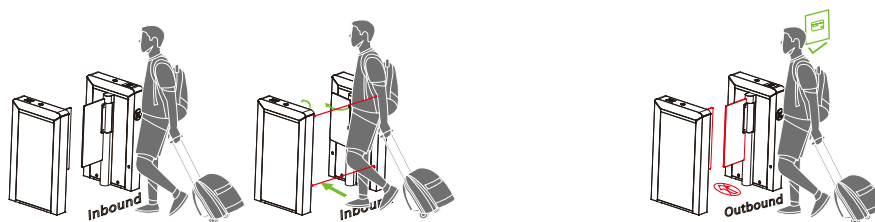
- (02E005) In need verification, out prohibited.



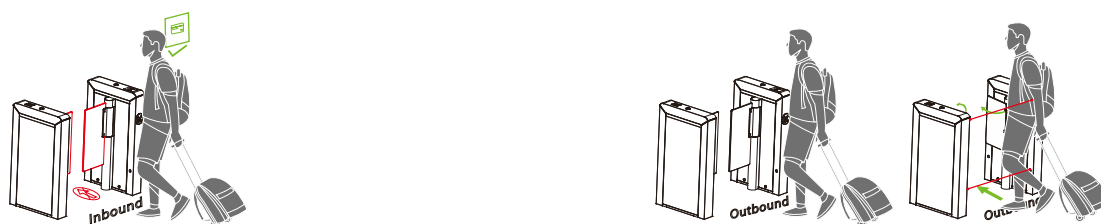
- (02E006) In prohibited, out need verification.



- (02E007) In free, out prohibited.



- (02E008) In prohibited, out free.

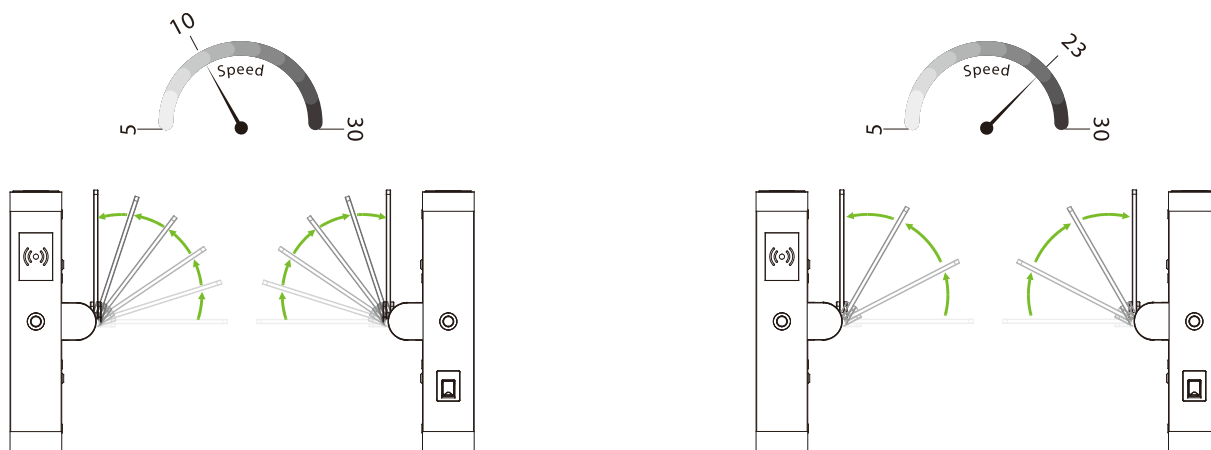


- (02E009) Two-way normally open.



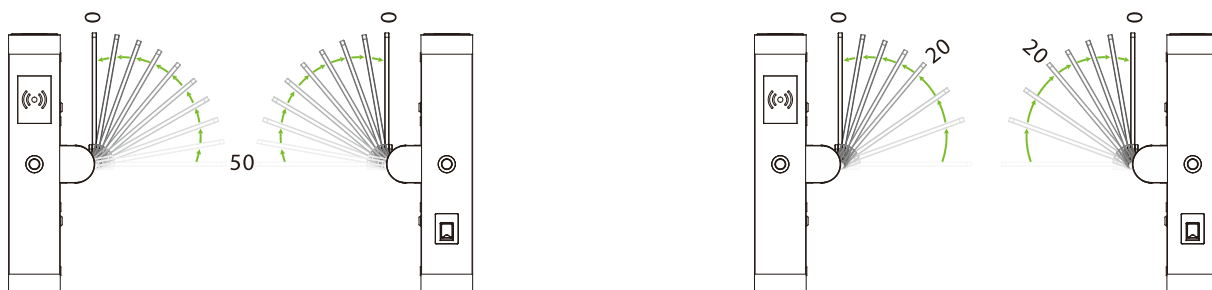
### Gate Opening Speed (03EXXX)

To open the gate, you can adjust the gate opening speed. Setting a larger number will result in a faster opening speed. The Gate Opening Speed value can be configured within the range of 5 to 30, and the default value is 23.



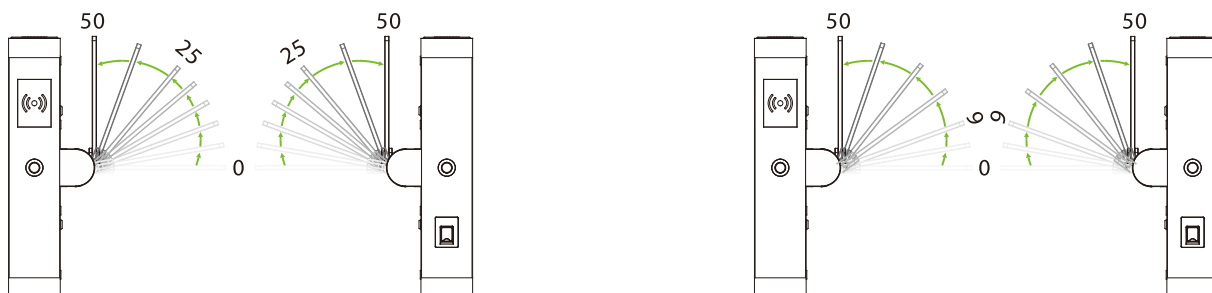
### Gate Opening Deceleration Distance (04EXXX)

The larger the number, the longer the deceleration time and the more stable the swing arm operation. The Gate Opening Deceleration Distance can be set between 0 to 50 and the default value is 20.



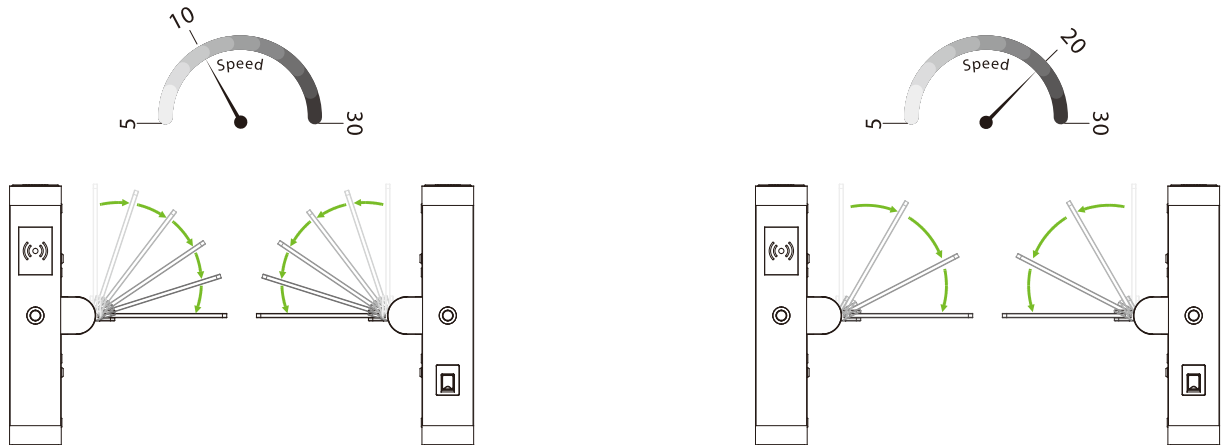
### Gate Opening Compensation Speed (05EXXX)

It can be set when the swing arm cannot open to the limit or shakes. The larger the number is set, the faster of the compensation speed. The Gate Opening compensation Speed value can be set between 0 to 50 and the default value is 9.



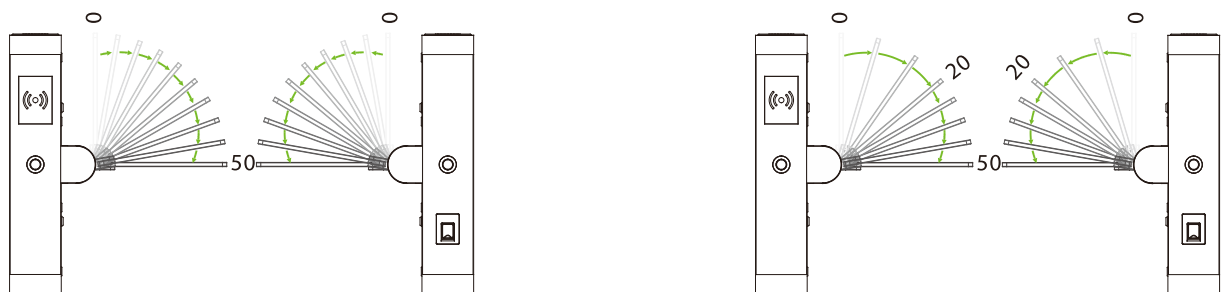
### Gate Closing Speed (06EXXX)

Set the gate closing speed to close the gate. The larger the number is set, the faster the speed. The Gate Closing Speed value can be set between 5 to 30 and the default value is 20.



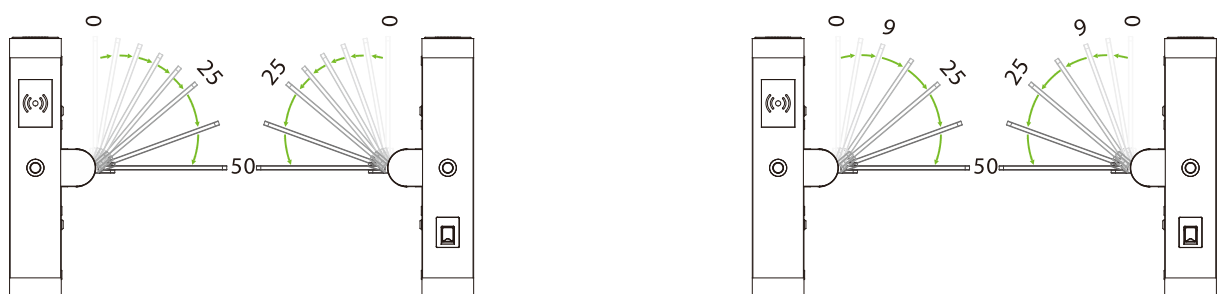
### Gate Closing Deceleration Distance (07EXXX)

The larger the number, the longer the deceleration time and the more stable the swing arm operation. The Gate Closing Deceleration Distance value can be set between 0 to 50 and the default value is 20.



### Gate Closing Compensation Speed (08EXXX)

It can be set when the swing arm cannot close to the zero position or shakes. The larger the number is set, the faster of the compensation speed. The Gate Closing compensation Speed value can be set between 0 to 50 and the default value is 9.



**Master/Slave Setting (09EXXX)**

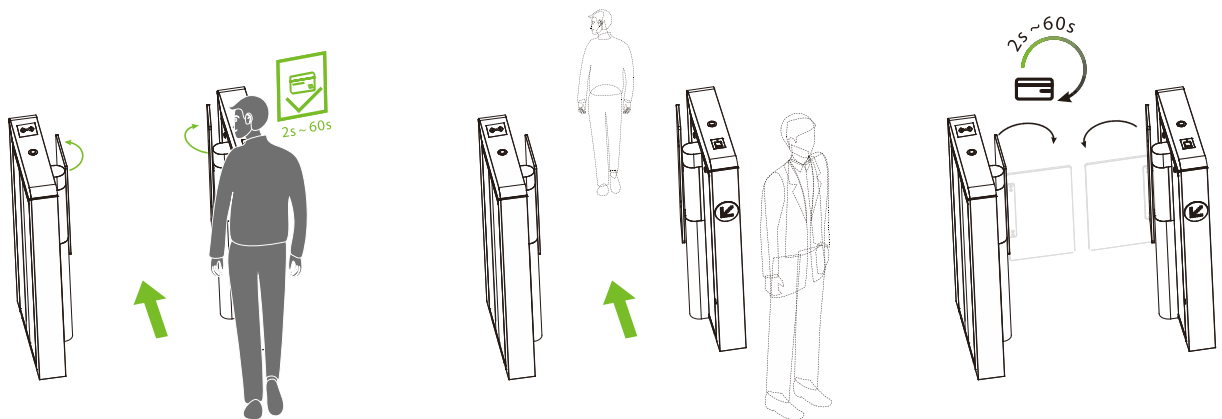
- (09E000) Master
- (09E001) Slave

**RS485 Address (10EXXX)**

It can be set between 0 to 254 and the default value is 0.

**Open Duration Time (11EXXX)**

The valid time period after a successful verification can be configured. Once the set time is reached, the gate will automatically close. The longer the number set, the longer the valid time. The valid value ranges from 2 to 60 seconds, with a default value of 5 seconds.

**Gate Closing Delay Time (12EXXX)**

Set the delay time of gate closing after passing. The valid value for gate closing delay time can be set between 0 to 60s and the default value is 0s.



### Correct Barrier Position Adjustment (13EXXX)

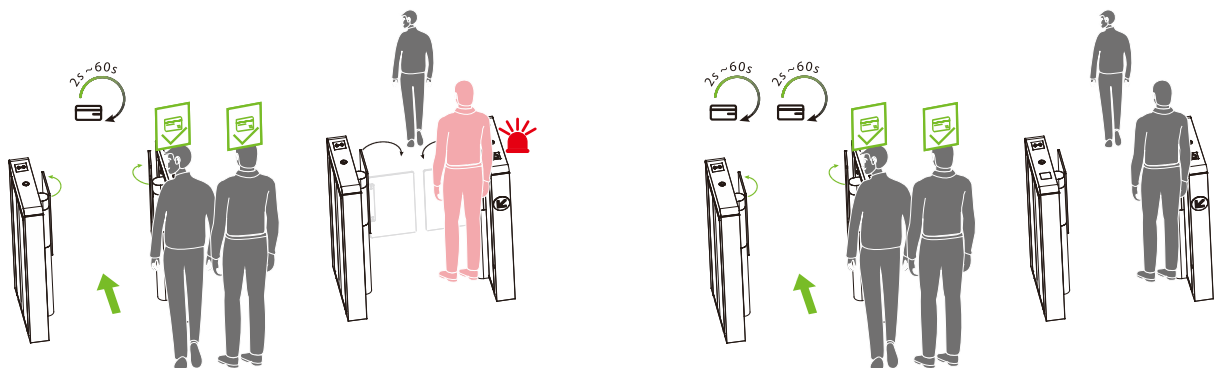
- (13E001) Zero position
- (13E002) Right position
- (13E003) Left position
- (13E004) Slave position

1. Adjust the position only when Mars-S100 series is installed properly.
2. When setting the zero position, you can manually push the swing arm for fine-tuning. If the barrier exceeds a certain angle, it will be invalid. (At this time, the digital LED displays 13E000).

### Gate Opening Memory (14EXXX)

- (14E000) Close (Default)
- (14E001) Open

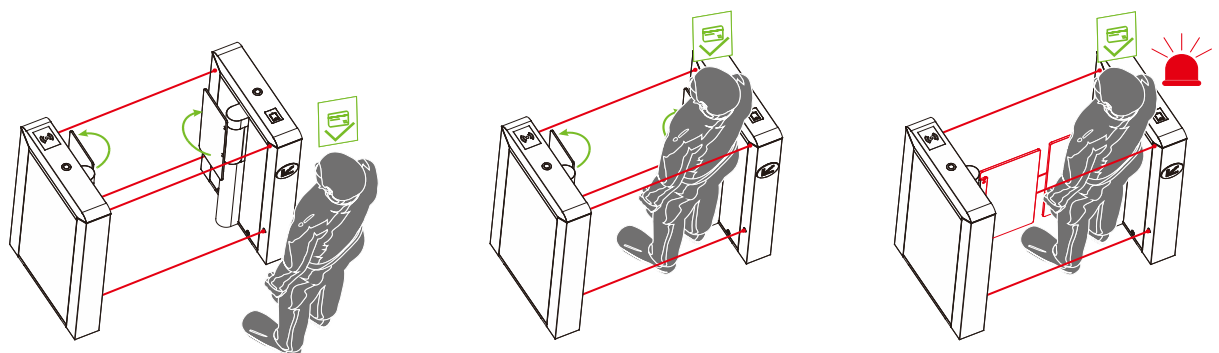
When more than two legal access signals are given at the same time (including the same direction and the opposite direction), the system will remember all pass requests and complete each pass in turn.



### Authentication in Lane (15EXXX)

It allows the pedestrian verification during IR sensor triggered.

- (15E000) Allow (Default)
- (15E001) Forbidden



### Volume Setting (16EXXX)

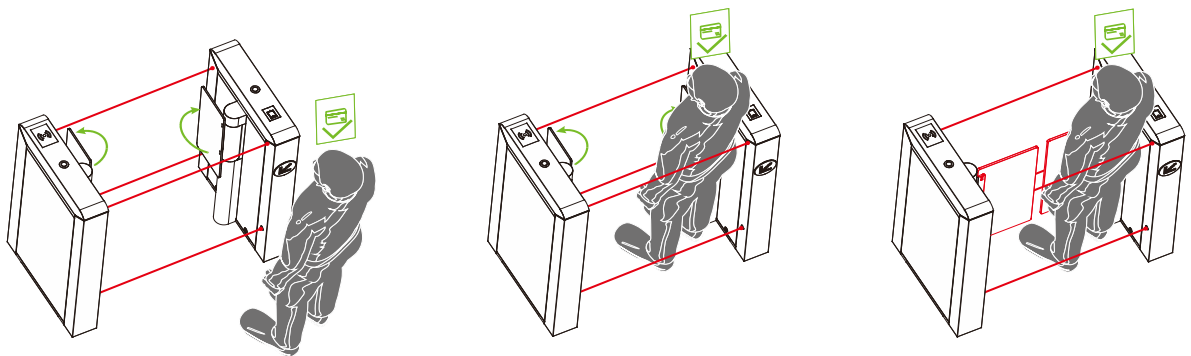
Volume Setting is used for adjusting the volume of the device. The larger the number is set, the louder the volume. The valid value for Volume Setting can be set between 1 to 100 and the default value is 40.



### Close Alarm Tone (17EXXX)

When the alarm tone is turned off, the Turnstile will not emit an alarm tone when encountering an alarm situation. The following figure shows an example of the prohibition of authentication in lane:

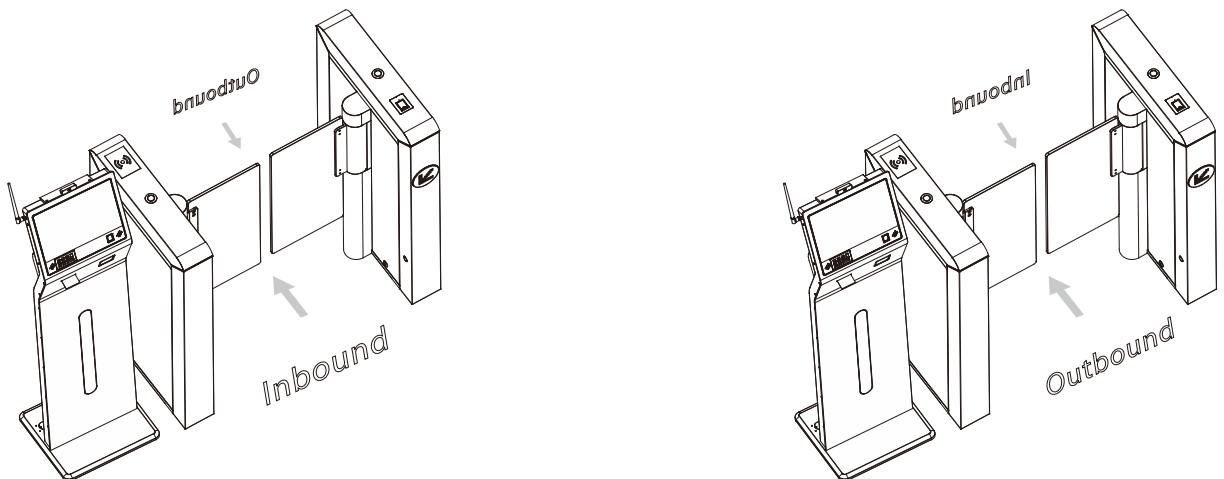
- (17E000) Close
- (17E001) Open (Default)



### Exchange Entrance and Exit Voice (18EXXX)

Ordinary alarm sounds do not need to be exchanged.

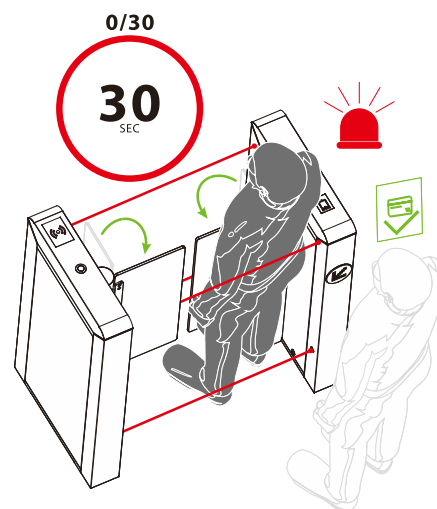
- (18E000) Right in, left out (Default)
- (18E001) Right out, left in





### Stay Duration Time (19EXXX)

Set the duration of stay in the channel after successful verification. The valid value for Stay Duration Time can be set between 5 to 30 seconds and the default value is 10s.



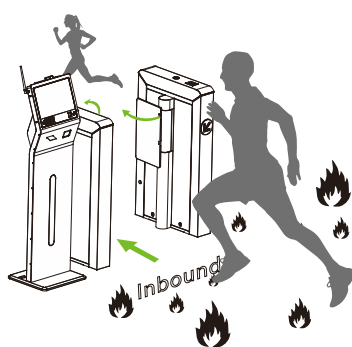
### Force Adjustment (20EXXX)

The larger the number, the greater the efficiency of the gate opening and closing force. The valid value for Force Adjustment can be set between 10 to 60 and the default value is 40.

### Fire Opening Direction (21EXXX)

According to the external fire device, select the corresponding type of trigger mode.

- (21E000) In open (Default)
- (21E001) Out open



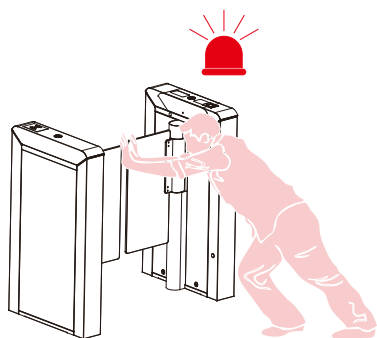
### Clutch Start Angle (22EXXX)

Set the angle at which the clutch starts. The larger the number, the bigger the angle. The valid value for Clutch Start Angle can be set between 0 to 99, and the default value is 0.

### Clutch Alarm Setting (23EXXX)

When the gate is unlocked in an unauthorized way, the clutch gets locked automatically. The Clutch Alarm Setting can be set as:

- (23E000) Delayed unlock (Default)
- (23E001) Authentication to unlock.

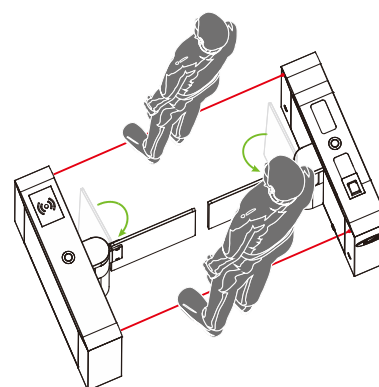
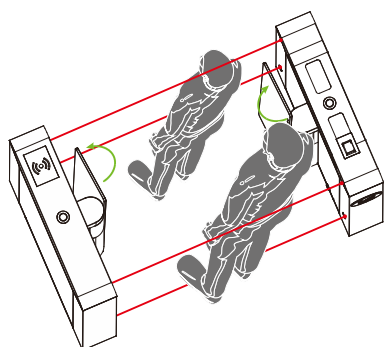


### Restore Factory Setting (24EXXX)

- (24E001) Restore factory settings.

### Anti-pinch Area Setting (25EXXX)

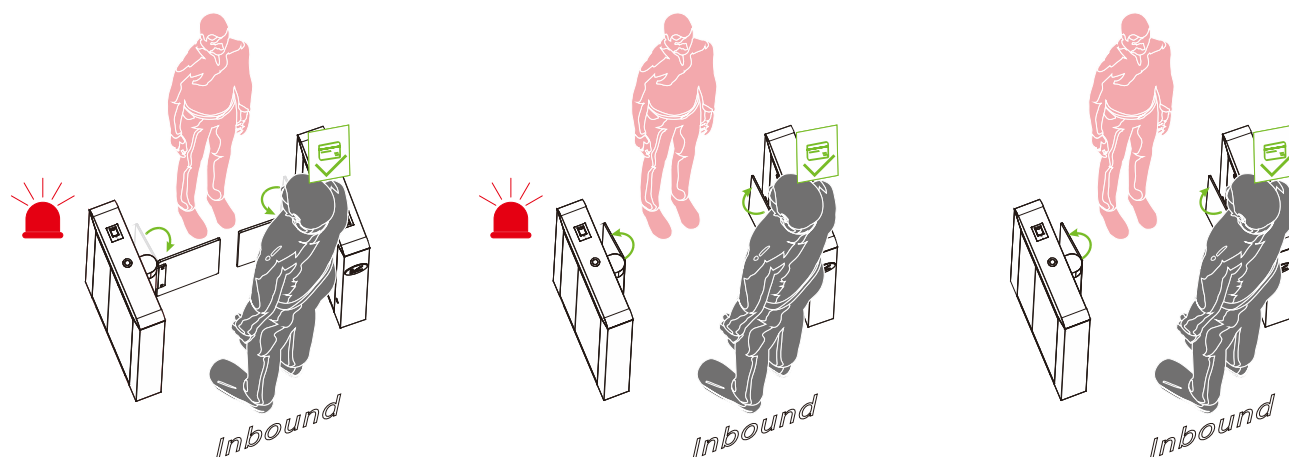
- (25E000) All Infrared anti-pinch (Default)
- (25E001) First and last pair are not anti-pinch.



### False Direction Entry (26EXXX)

When the Anti-pinch Area Setting needs to be set to (25E001) only, the False Direction Entry (26E000) is effective.

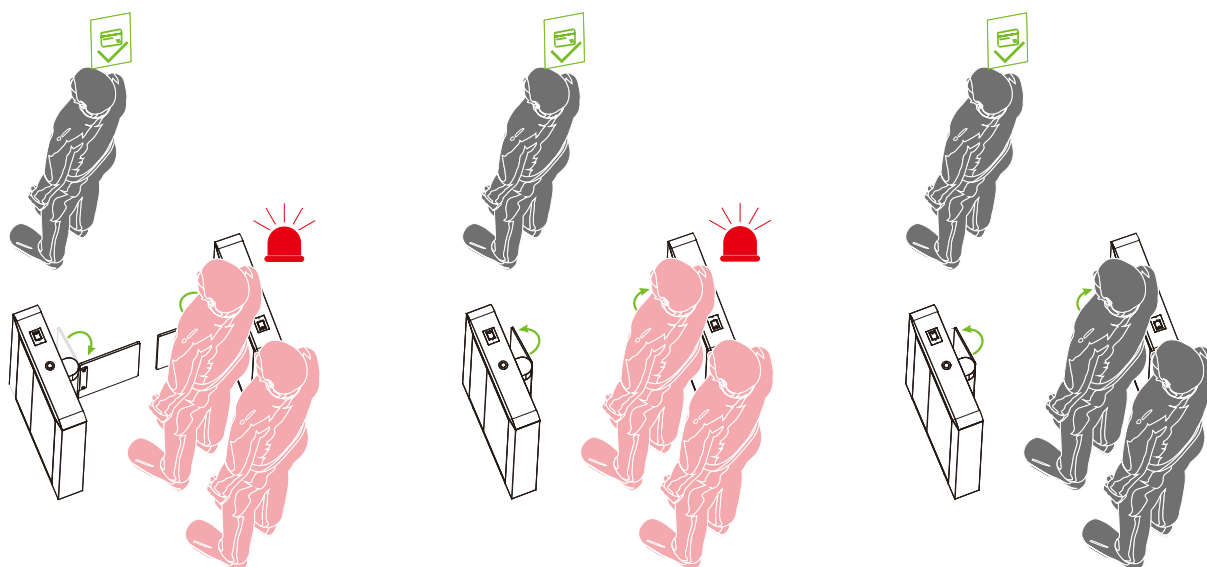
- (26E000) Close
- (26E001) Only alarm (Default)
- (26E002) No detection



### Anti-tailgate Setting (27EXXX)

When the Anti-pinch Area Setting needs to be set to (25E001) only, the Anti-tailgate Setting (27E000) is effective.

- (27E000) Close
- (27E001) Only alarm (Default)
- (27E002) No detection



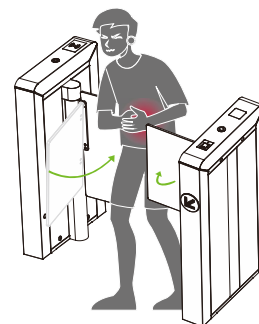
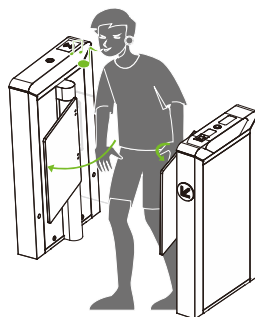
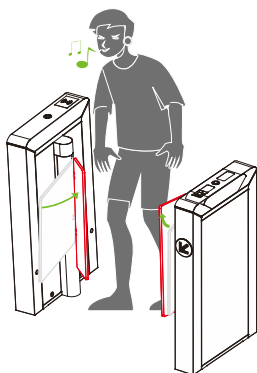
### Gate Closing Position (28EXXX)

When the Anti-pinch Area Setting needs to be set to (25E001) only, the Gate Closing Position (28E001) is effective.

- (28E000) Last pair (Default)
- (28E001) Penultimate pair

### Anti-pinch Action Setting (29EXXX)

- (29E000) Stop (Default)
- (29E001) Open
- (29E002) Close the function.



### Voice Tone Switching (30EXXX)

- (30E000) Voice playback (Default)
- (30E001) Alarm

### Motor Installation Direction (31EXXX)

- (31E000) Inverted
- (31E001) Upright.

**Note:** Private setting is invalid.

### Swing Arm Type (32EXXX)

- (32E000) Ordinary swing door (Default)
- (32E001) Larger swing door

### Right Synchronous Adjustment (33EXXX)

You can adjust the synchronization of the Master through this menu, the larger the value, the faster the response of the Master to open the gate, the setting range lies between 30 to 200, and the default value is 100.

### Left Synchronous Adjustment (34EXXX)

You can adjust the synchronization of the Slave through this menu, the larger the value, the faster the response of the Slave to open the gate, the setting range lies between 30 to 200, and the default value is 100.

**Version of Program (35EXXX)**

Master and slave need to be set up separately, if the setting is wrong, the synchronization of master and slave will be degraded.

- (35E000) Old
- (35E001) New

**Entrance Direction Voice (36EXXX)**

Select the voice to entrance the direction, there are 30 voices to choose from.

**Exit Direction Voice (37EXXX)**

Select the voice to exit the direction, there are 30 voices to choose from.

**LED Mode (38EXXX)**

Master and slave need to be set up separately.

- (38E000) S10
- (38E001) L7000

**Fire Mode (39EXXX)**

- (39E000) Normal Close
- (39E001) Normal Open

## 3.6 Error Code for Turnstile

Error Code	Cause
<b>ER0002</b>	Power-on Self-test failure, Hall Limit Detection Error
<b>ER0004</b>	Run Timeout
<b>ER0008</b>	Clutch Locked
<b>ER016</b>	The code disk detection failed.
<b>ER032</b>	Electric Motor Shaft Lock Protection failure

## 4 Maintenance

### 4.1 Chassis Maintenance

The chassis is made of SUS304 stainless steel or cold rolled sheet steel. If it has been used for a long time, the surface may have rust stains. Clean the surface thoroughly with a clean cloth on a regular basis. Coat the surface with anti-rust oil, but do not cover the infrared sensor.

### 4.2 Movement Maintenance

Before doing maintenance, turn off the power. Open the door, wipe the surface dust, and apply lubricant for smooth movement.

### 4.3 Power Supply Maintenance

- Switch off the power supply before maintenance.
- Check the power plug connection, if found loose, fix it properly.
- Do not change any connection position randomly.
- Check the external power supply insulation periodically.
- Do periodic check for any kind of leakage.
- Check if the technical parameters of interface are normal.
- Check the service life of the electronic components and replace accordingly.

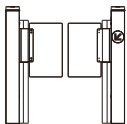
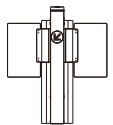





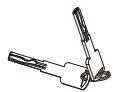

**Caution:** All the above-mentioned maintenance methods for speed gates are must be carried out by a professional technician, especially the movement and the electric control part. To ensure operational safety, it is important to first switch off the power supply when the speed gate is not in use.

## 5 Troubleshooting

No.	Failure Descriptions	Analysis and Solution
1	The mode indicator light does not respond or the indication is incorrect.	Check that the control panel mode indicator wiring is correct or that the contact is poor.
2	After swiping the card, there is only a speed gate unlocked.	Check the mode setting of the master and slave devices and the 8-core, 2-core connection lines. See the wiring diagram for the specific connection circuit.
3	The speed gate doesn't close when the opening delay time is ended.	Check to see if the opening delay time is too long or whether the IR sensor is covered.
4	When the gate is self-tested, the swing arm is not in the normal closing position!	In the process of self-test, there are obstacles, please remove the obstacles, restart the self-test after power-on!

## 6 Packing List

The package consists of the following items:

	Mars-S100	Master: 1 Slave: 1
		1
	Card★	1
	Expansion Screw M12*100	8 (Mars-S100)
		4 (Mars-S120)
	Stainless Steel Maintenance Wipes	1
	Hex wrench	1
	Allen Screw	4
	Key	2
	Washer	8 (Mars-S100)
		4 (Mars-S120)



**ZKTeco Biometrics India Pvt Ltd.**

B-1, Khata No. 31, Devasandra Industrial Estate, Whitefield Main Road,  
Beside Phoenix mall, Mahadevapura, Bengaluru-560048, Karnataka, India.

Phone : 080 6828 1342

Mail : [sales@zkteco.in](mailto:sales@zkteco.in)

Website : [www.zkteco.in](http://www.zkteco.in)

