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Document Name	Face Recognition Terminal F5 Plus Datasheet		Date	2020.09.02

F5 Pus Face Recognition Terminal Manual

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1.Product Overview

1.1 Product Introduction

F5 Plus is a convenient and safe industrial-grade visual face recognition terminal. Based on the latest face recognition algorithm of Rakinda Technology, F5 Plus face recognition verification terminal can realize personnel identity verification, personnel entry and exit management and attendance management, which is widely used in office buildings, parks, school stations, enterprises, governments and scenic exhibition halls and other common scenarios, helps to realize intelligent safety management and control.

The system supports binocular infrared live body detection and adds the function of human body temperature screening. It is a new generation of intelligent identity verification methods.

1.2 Product Characteristics

- Recognition is fast and accurate: face recognition can be completed in 300 milliseconds, the recognition accuracy is higher than 99%, and it supports 0.5m~1.5m recognition;
- The capacity of the recognition library is large: support the local staff library of 20,000 people;
- Support local storage of historical records of 50,000 people;
- Powerful detection function: real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur;
- Infrared live detection: effective defense against non-living attacks such as 3D printing, electronic screens, videos, pictures, masks, and headgear;
- Interface standardization: support the Wiegand protocol of the access control industry, and support the docking of third-party business systems;
- Support external ID card reader;
- Abnormal alarm reporting: Support for forced dismantling of equipment, forced door opening alarm, door sensor timeout, and abnormal alarm reporting of non-living attacks;
- Support RS-485 serial port, Wiegand 26/34 output interface;
- Support the deployment method of public network and local area network;
- Support HTTP interface docking;
- Support screen display content configuration;
- Support recognition distance configuration;

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2.Equipment Hardware

2.1 Appearance Pictures

2.2 Product Parameter

Face Recognition Terminal			
Model		F5 Plus-Wall-mounted Type	
Features	Main function	Face recognition, Attendance,Access control	
	Use environment	Indoor & Outdoor	
	Color	Cold Gray	
Camera	Type	**RGB**	**IR**
	Resolution	2 million pixels	2 million pixels
	Aperture	F2.0±5%	F2.0±5%
	Focal length	4.3mm±5%	4.3mm±5%
	Software wide	Auto	N/A

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	dynamic			
	Vertical wide angle	40°		40°
	Horizontal wide angle	65°		65°
	Infrared fill light	Support		Support
	White fill light	Support		Support
Core parameter	Android	Android7.1		
	CPU	4 cores，1.6GHz		
	Storage	RAM 2G，ROM 8G		
Man-machine Interactive	Display	8 inches, Full viewing angle, 170°IPS LCD screen, Resolution 800*1280		
	Touch Screen	Support		
	Human body sensing module	Support		
	Human body sensing module【Options】	Test accuracy：0.1℃		
		Test error：≤±0.5℃		
		Test distance (recommended distance) 50cm		
		Working temperature：10℃~40℃		
Communication method	Networks	10/100/1000Mbps		
	WIFI	Comply with IEEE802.11b/g/n standard (2.4G)		
Reading Mode	Face	Support		
	IC card	Support		
	QR code	Support		
Input/Output port	RJ45 port	Support 100Mbps		
	USB port	USB 2.0		
Power	Adaptor	DC12V-2A		
Environmental requirements	Working temperature	-20℃～60℃		
	Working humidity	20% to 90% (under non-condensing water dripping state)		
	Static protection level	IEC61000-4-2,LEVEL3		
Install Method	3 methods	Wall-mounted kit	Turnstile stand kit	Ground stand kit

2

.3Device Function Introduction

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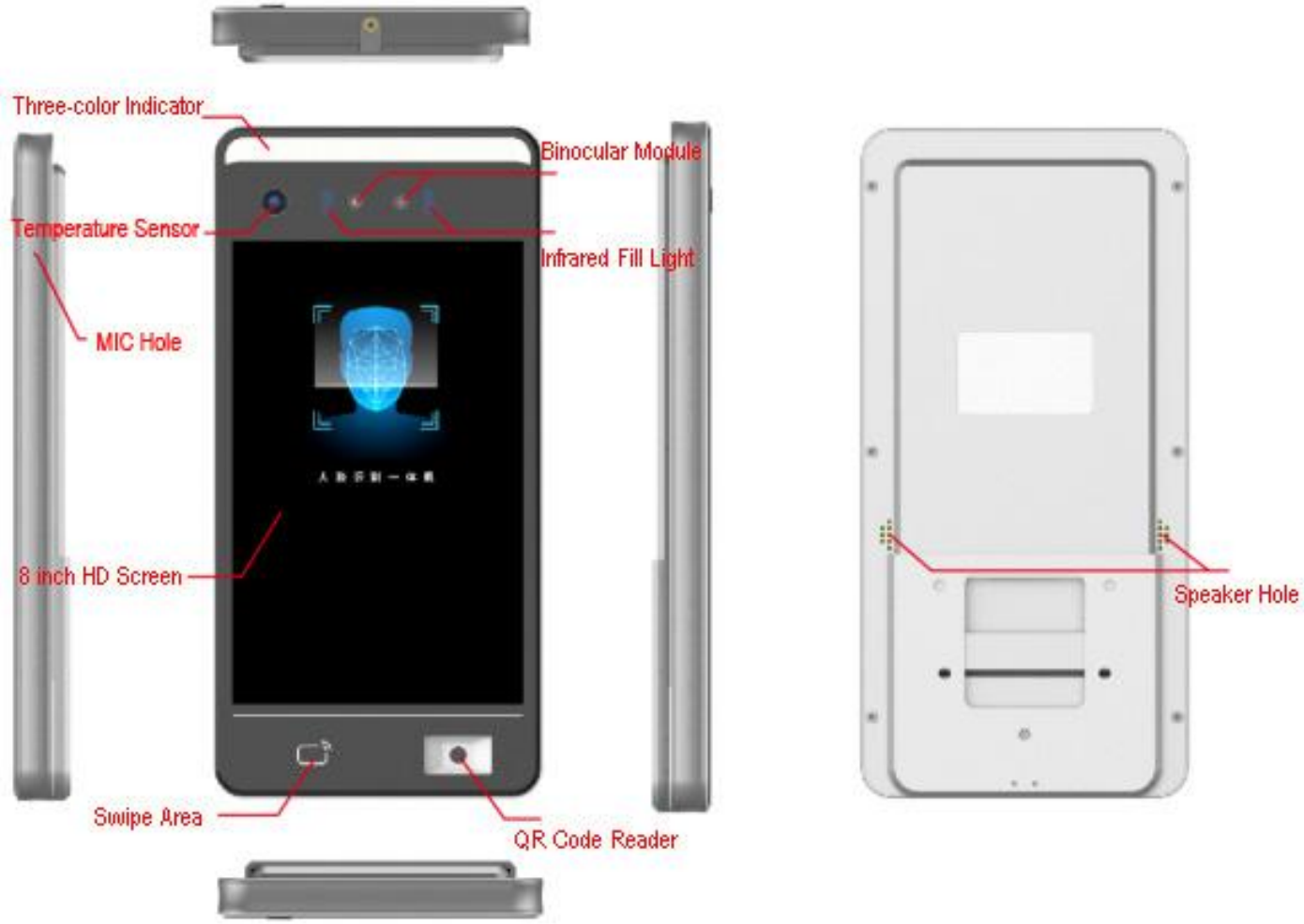

External Interface Hardware Wiring Instructions		
Type	Interfaces	Instructions
OTG	USB 2.0	Equipment upgrade and debugging and use of external equipment (ADB)
Network port	RJ45	Support 100Mbps
Relay	NC COM NO	The relay is normally closed/common/normally open. Generally, the door lock power supply is positively connected to the COM terminal, and then according to the type of door lock, the relay power supply is negatively connected to the NO port or the NC port. Note: the maximum relay contact load is 2A
Door sensor	MSG GND	GPIO1 detects the switch state of the door, input
IO □	IO GND	GPIO detection control signal, input
Upgrade	Upgrade GND	Support motherboard upgrade
Serial Port	D-(RS485CB) D+(RS485CA)	Support RS232 / RS485
Wiegand	WG_D1 WG_D0	Wiegand output interface, support 26bit/34bit protocol

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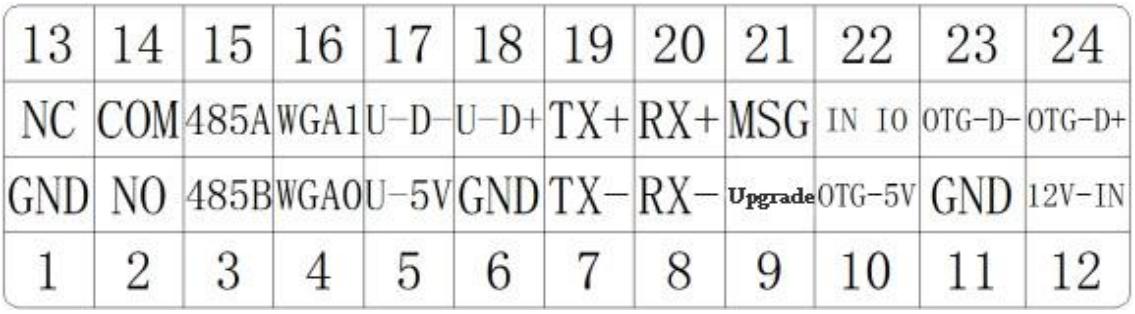
	GND	
Power Input	GND 12V+	Power input：12V DC

Wall-mounted Version Wiring Instructions:



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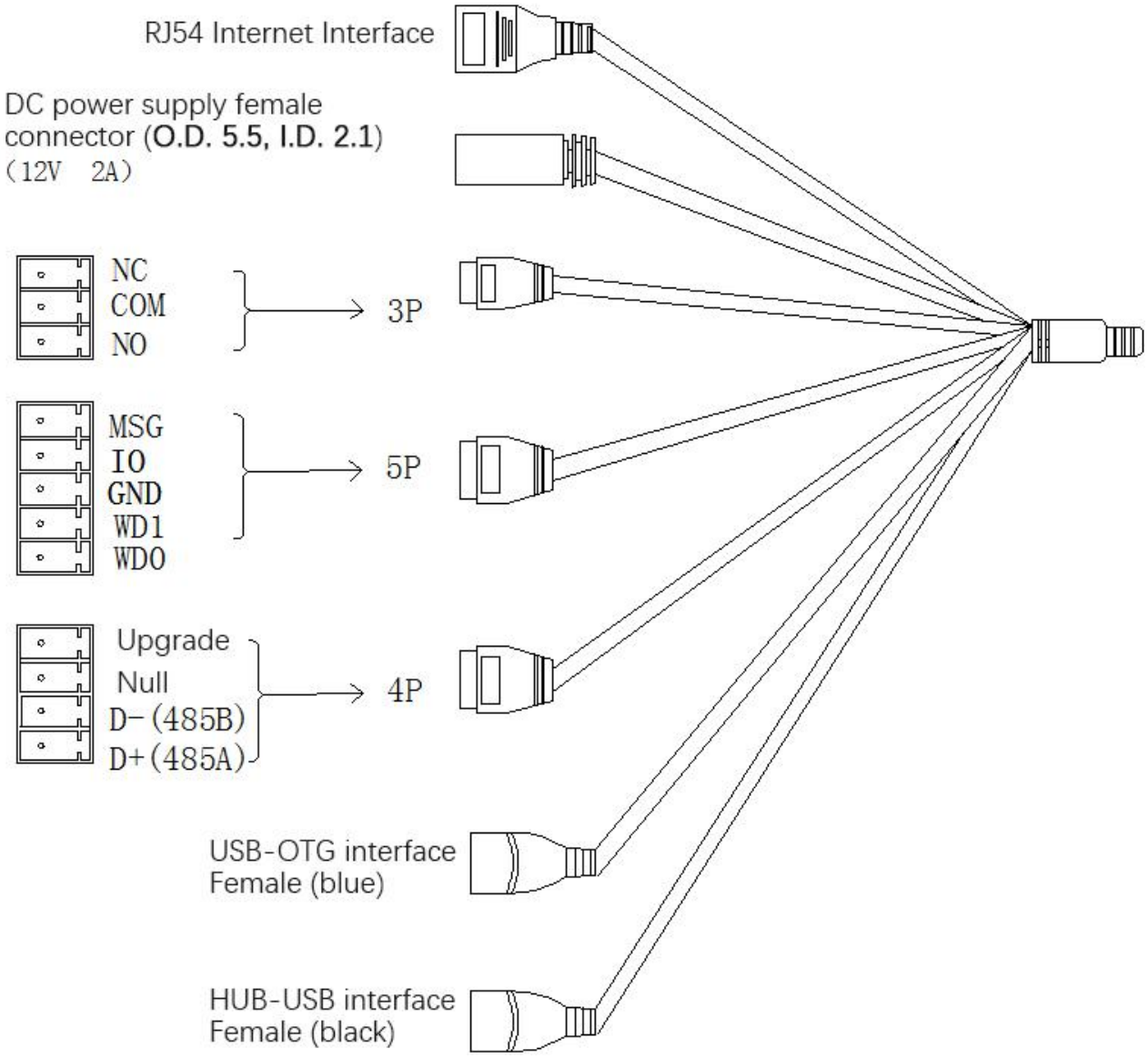
Integrated Wiring Harness Description



(1) Stripping the signal wires (using wire stripper) to expose the metal wire around 5mm. If available, it is better to have tin solder. Please see the picture below:

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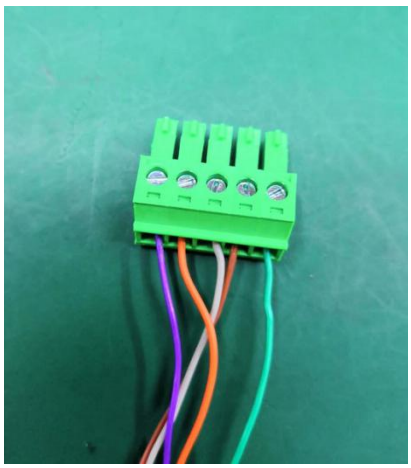
(2) Take out each screw, insert the wire head into the hole, fix the screw, test after locking to ensure if it is stable. Please check the picture below:



Third, Installation Instructions

Three type of installation: Wall-mounted type, turnstile type, floor standing type

1.Wall-mounted Effect:

2.Turnstile Type Effect

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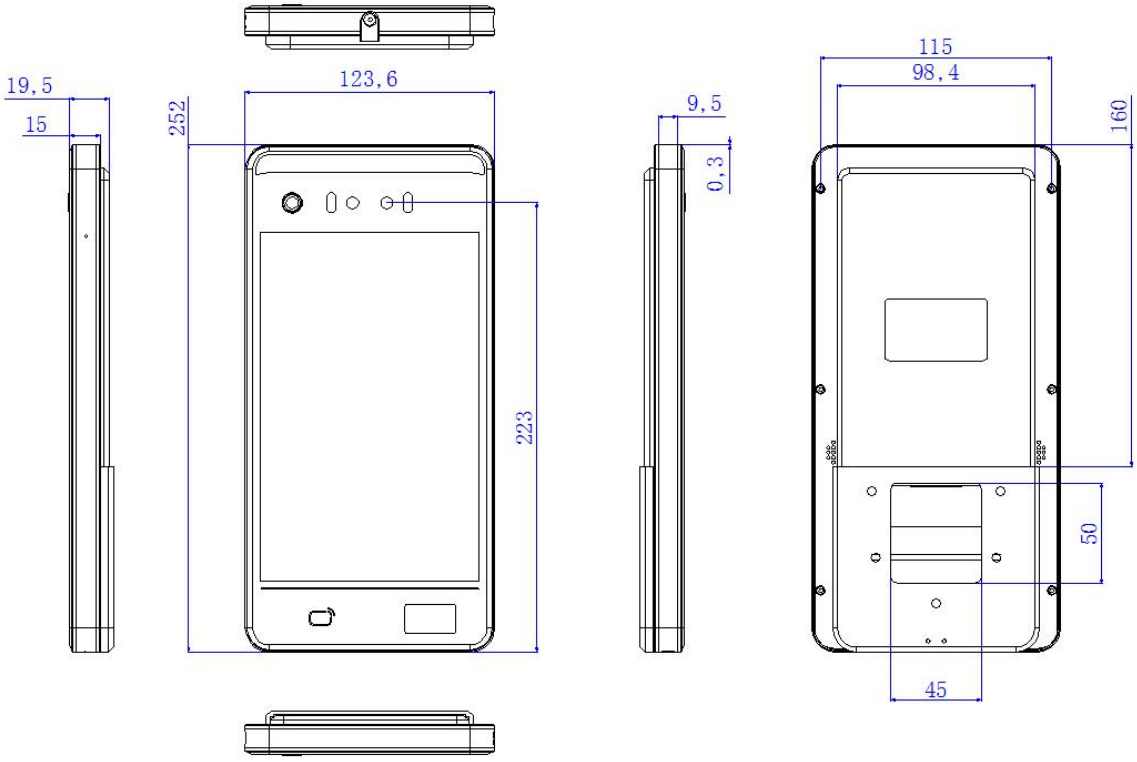
3. Column type

3.1 Wall-mounted Detailed Installation Instructions

The shape and size of the wall-mounted version (252mm*123.6mm*19.5mm)



The deice package contains a wall mount bracket, plastic expansion screws, and tools.
The following pic shows the size of the wall mount bracket

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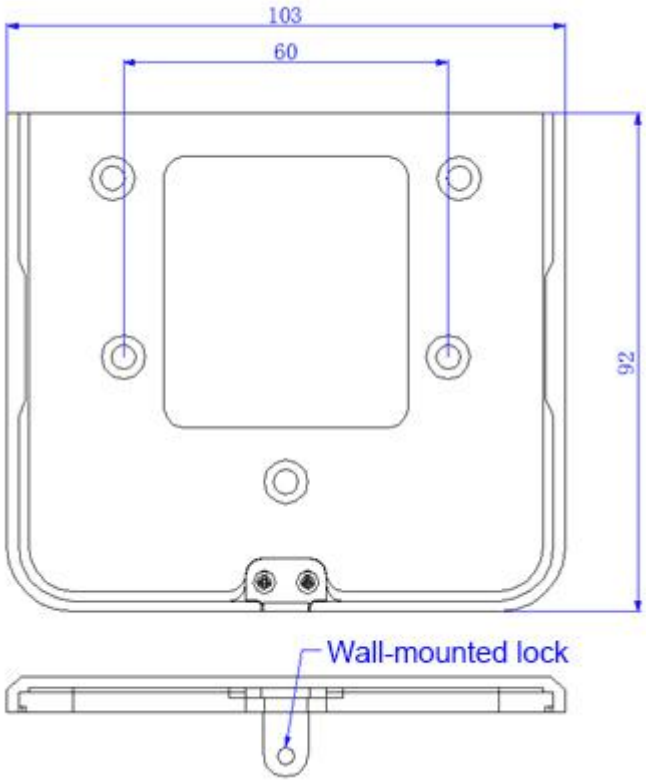
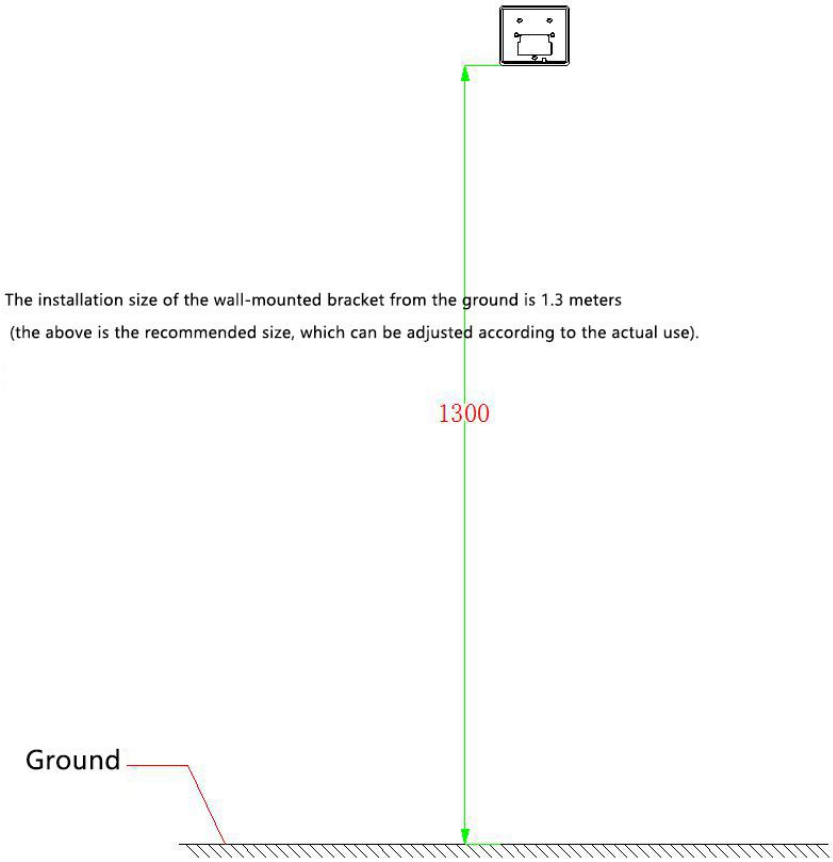


The wall mounted bracket supports standard 86 boxes of installation slots, and 86 boxes of machine screws are included in the package, which is convenient for construction and installation.

Installation Steps: Step 1: Wall drilling



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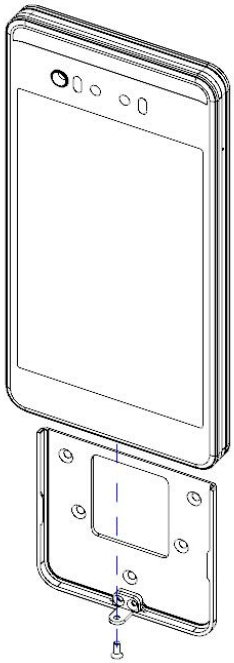
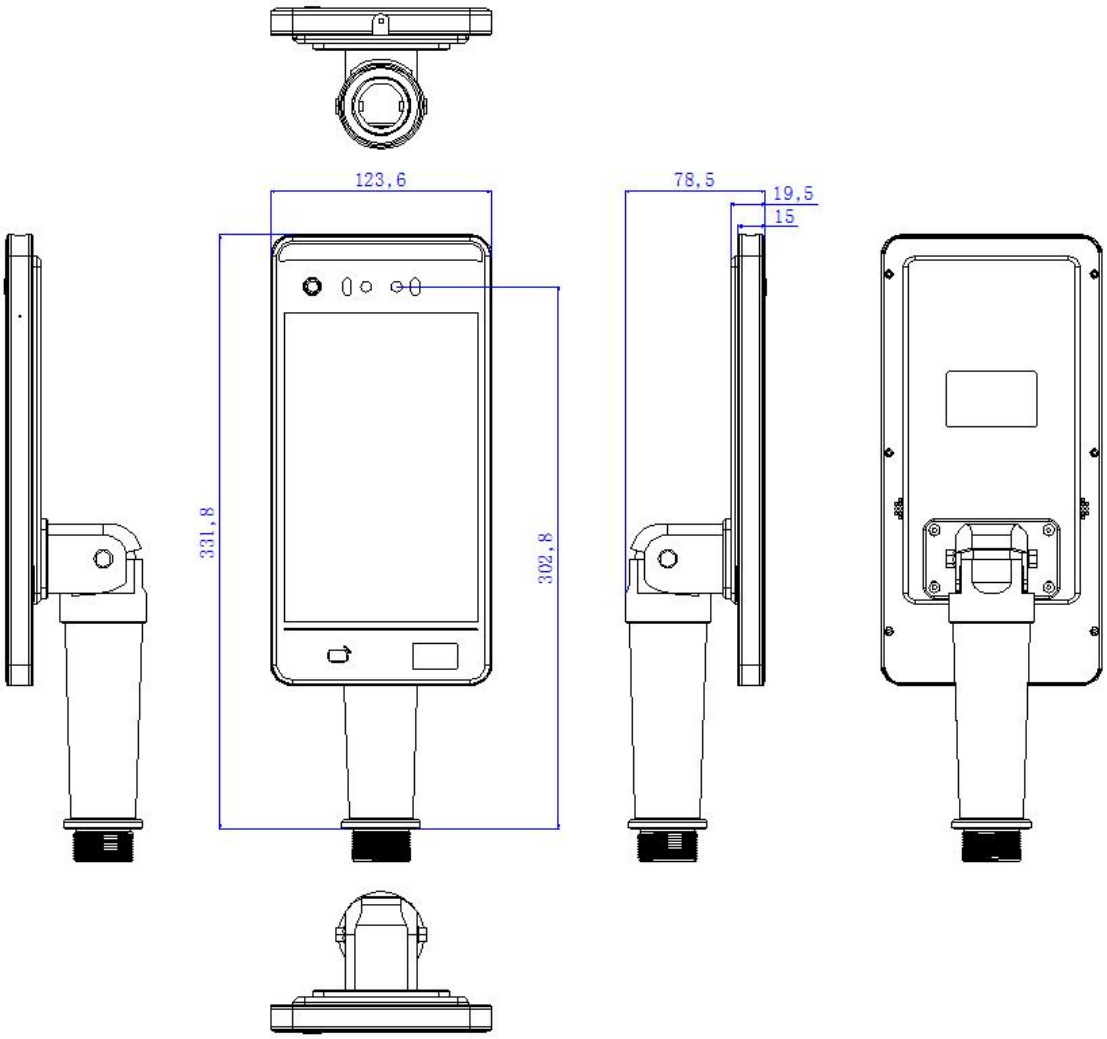
Step 2: Drive the screw expansion plug
Step 3: Install the wall panel
Step 4: After wiring, put the main machine on the bracket.



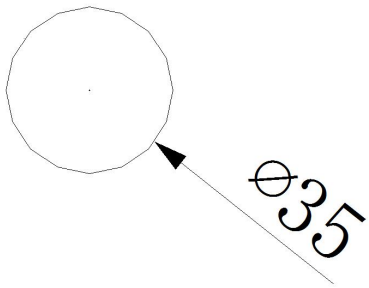
Step 5: Lock the anti-theft screw
A countersunk head screw M3*8 can be used to fix the terminal, and M3*8 is supplied in the package.
(Note: If the installation environment is glass plate or smooth stone wall surface which is inconvenient for opening holes, additional accessories shall be purchased (glass panel bracket))

3.2 Installation Instructions of Turnstile Version

Appearance and size of turnstile version (331.8mm*123.6mm*78.5mm)



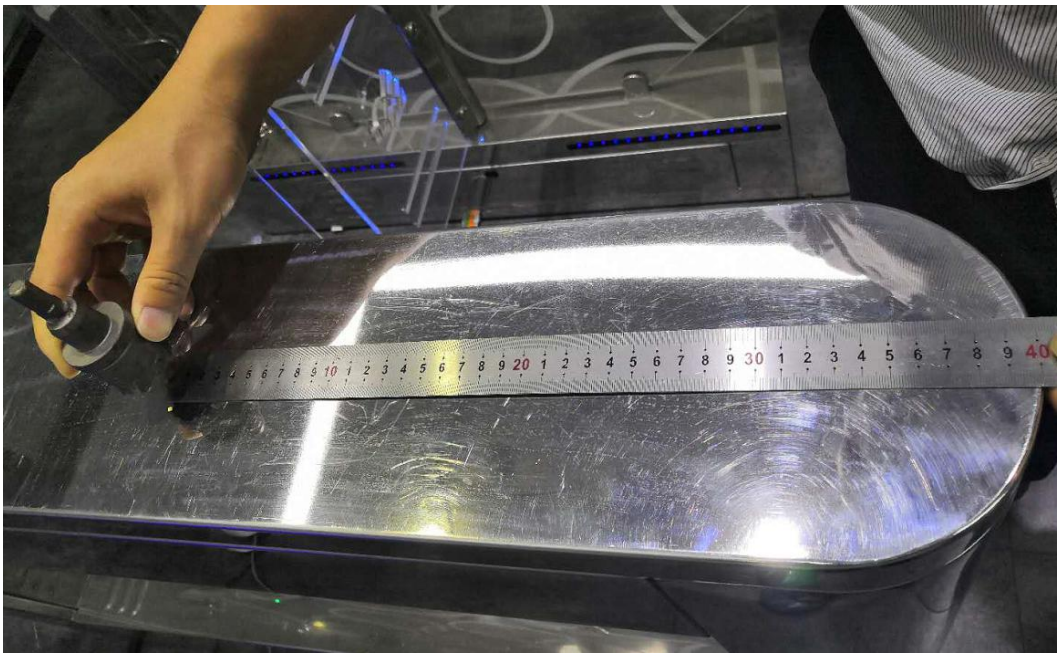
The device packaging contains the turnstile bracket. The following figure is the size description of the opening hole on the panel of the turnstile.
(opening distance (off the edge of the turnstile) reference range: 400~500mm）



Requiring φ35 hole, GB812 nut can be used to fix the column

Installation Steps:

Step 1: To select the position as shown in the figure. First, make a positioning hole with a small drill bit, and then make a hole with M35 hole drill.



Step 2, tighten the nut of the column and fix it after the wire harness is connected.

Step 3: complete the assembly of the turnstile equipment.

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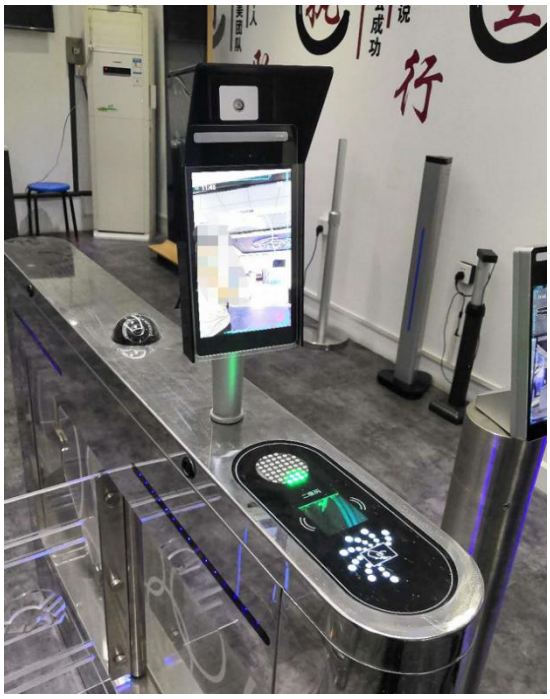

3.3 Detailed installation instructions of the column type

The Shape and Size: （1188.3mm~1638.3*123.8mm*84.2mm）

Steps of Installation:

Step 1, Thread the power supply and other signal lines from the bottom of the telescopic rod.

Step 2: Connect the wiring harness interface of the equipment with the wiring of the telescopic rod.

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Step 3: Complete the assembly of telescopic equipment after tighten the column on the telescopic rod.

3.4 Installation instruction of magnetic door

3.4.1 Installation diagram of magnetic door system

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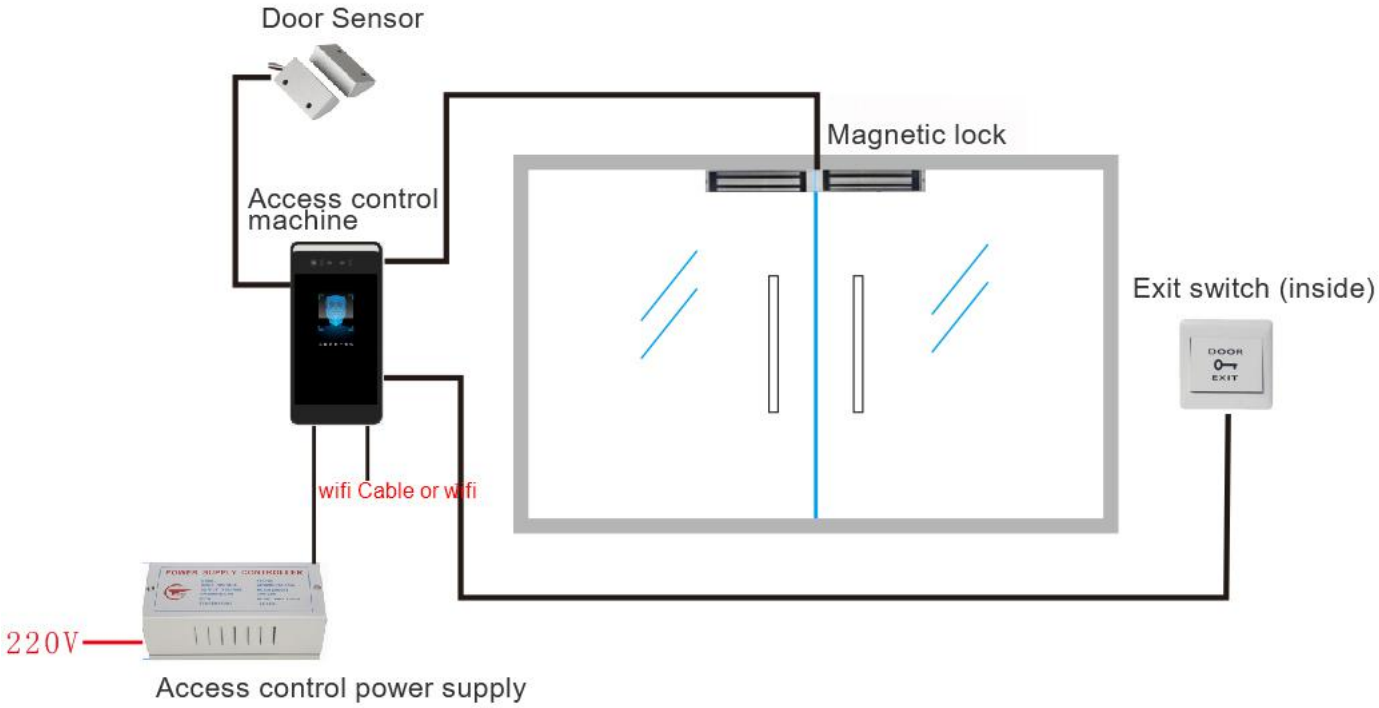
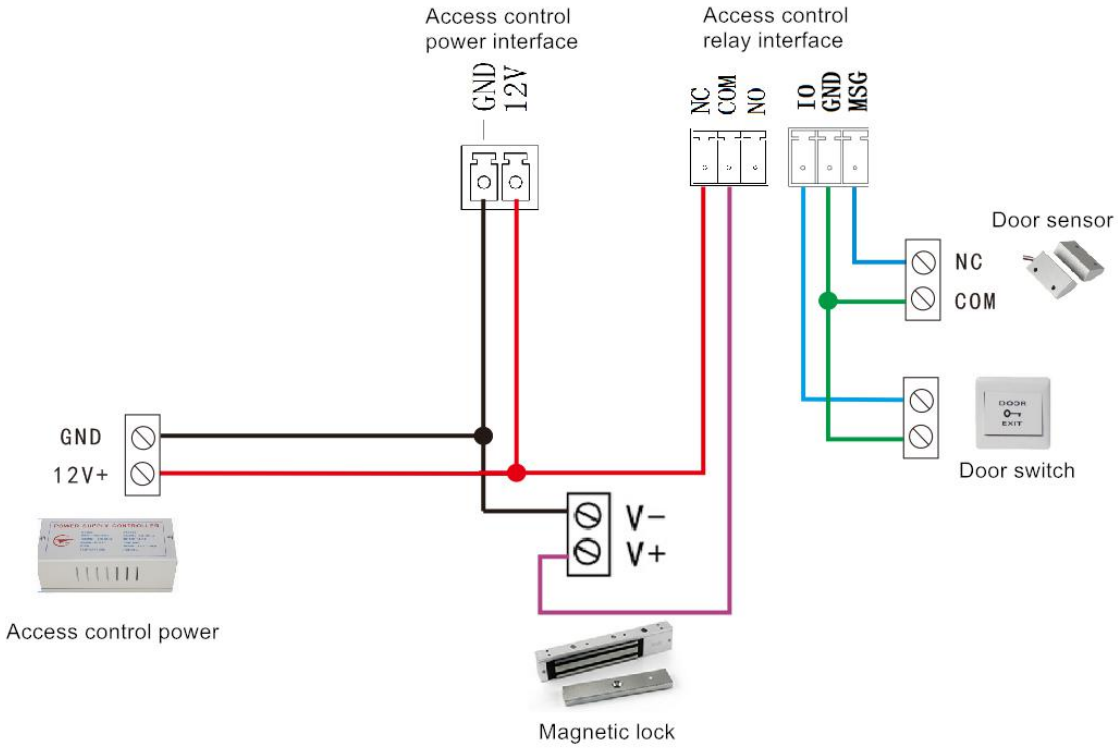


3.4.2 Wiring diagram of magnetic door system



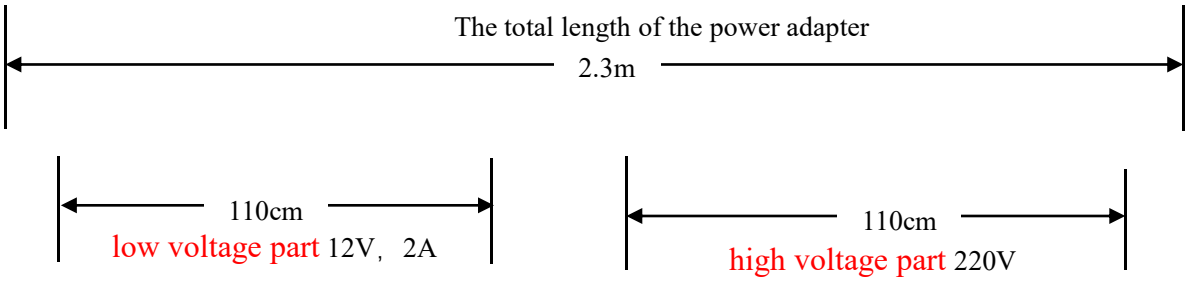
3.5 Installation Precautions

（1）This equipment has a built-in relay device. The maximum load voltage of the magnetic lock (or other access control unit) cannot exceed DC12V and the maximum current cannot exceed 2A. If it exceeds, the relay will be broken down and the door cannot be opened.

（2）In actual wiring, if the 12V power supply line of the host does not use a "dedicated power extension cable" and the distance is longer (more than 10 meters), resulting in excessive cable equivalent resistance, it is easy to cause insufficient equipment voltage (≤11V) and host repetition restart or crash.

（3）The device comes with a power adapter as shown in the figure, with a total length of 2.3 meters, of which the power cord (low voltage part) is 110cm and the power cord (high voltage part) is 110cm.

◆The extension of the power cord (low voltage part) shall not exceed 10 meters, otherwise it will lead to



insufficient power supply at the host terminal of the device, causing abnormal phenomena such as repeated restarts and crashes. If the power source is far away from the device, you can extend the power cord (high voltage part).

◆ If you use other adapters, such as 9V, 1A, insufficient voltage and low current will cause the device to restart repeatedly.

◆The cable used should not be too thin (such as a thin network cable). It is recommended to connect multiple strands of the same cable in parallel or use a cable with a thick copper core to ensure that the voltage is greater than 11V.

Note: If you use a network cable, use 4 strands of network cable as the positive electrode and 4 strands as the negative electrode for the extension cable.

◆ If you are not sure how to extend it, please contact the supplier to replace the "dedicated power extension cord".

4. Hardware Warranty Service Description

After you purchase, read the warranty service manual carefully.

1. The free warranty time is 1year if because of quality problem
2. Product breakdown caused by the following conditions are not covered by the warranty:

※ Improper use environment or conditions, such as power failure, ambient temperature, humidity, lightning strikes, etc. cause product failure.

※ The product malfunctions due to accidents, negligence, disasters, improper or misoperation, network attacks, etc.

※ Failure or damage caused by installation, repair, modification or disassembly by maintenance personnel who are not authorized by the company.

※ The product exceeds the warranty period

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