

Face recognition access control system

FCV5002 Product User Manual



Revision History

date OF CHANGE	edition	version DESCRIPTION	modifier

catalogue

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1. preface

Thank you for using the VF202 facial recognition device. Carefully reading this document will help you understand the device's functions and features, and quickly learn how to use and install it.

1.1. Product Introduction

The VF202 is a Linux-based device with 8GB storage capacity, supporting multiple communication protocols including RS485, Wiegand, Ethernet, and 4G. It features local facial recognition verification, storing facial data locally. Upon successful authentication, it generates a personnel ID, which can be output through any of the four specified methods. Additionally, the VF202 supports under-screen card swiping and Bluetooth wireless door access, offering diverse access options.

This product features a 5-inch HD screen with voice announcements, offering excellent interactivity and ease of use.

1.2. product features

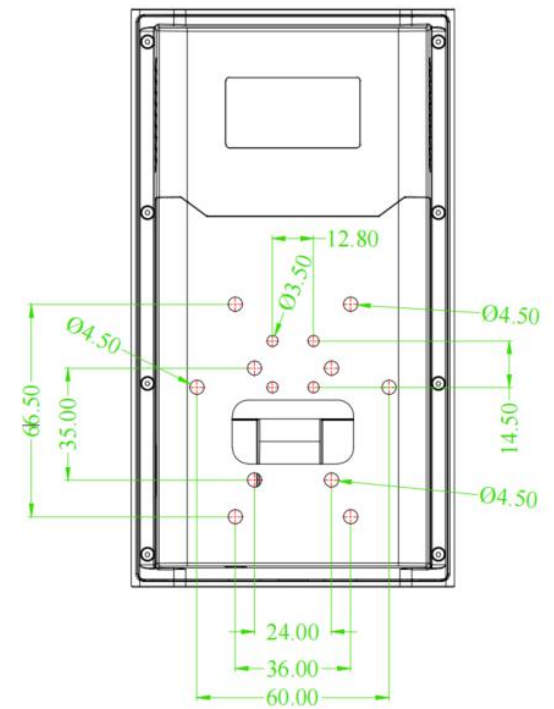
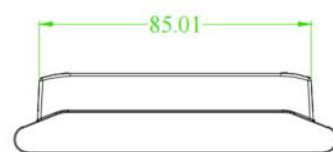
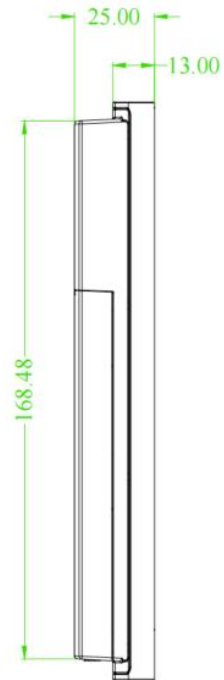
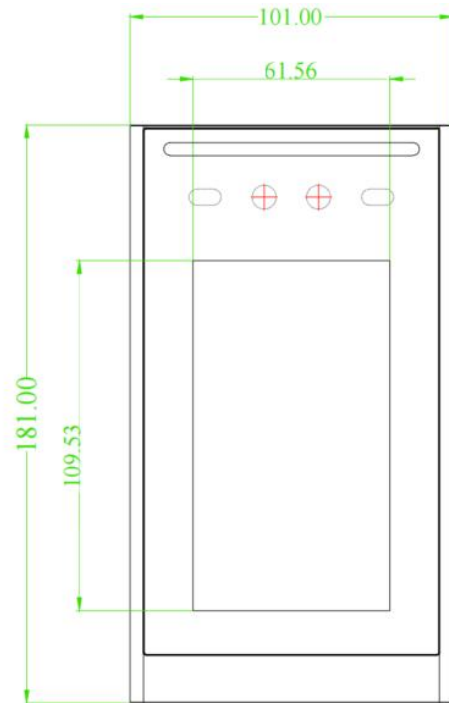
- ✓ 5-inch LCD display with voice announcement, real-time voice prompts, and a 1-megapixel dual-camera system.
- ✓ Over 99.9% recognition accuracy with millisecond-level response speed.
- ✓ The recognition distance is 0.3m-1.5m, and it supports 2000 face database and more than 50,000 records.
- ✓ Built-in silent live detection effectively blocks photo, video, and mask attacks
- ✓ Supports TCP/IP, MQTT, and HTTP protocols.
- ✓ The RS485 and Wiegand outputs the face ID number.
- ✓ Built-in high-precision clock chip and RTC battery, which can save time when power is cut off.
- ✓ Register and set up more easily with the dedicated access control program.
- ✓ Supports logo customization.

2. product appearance

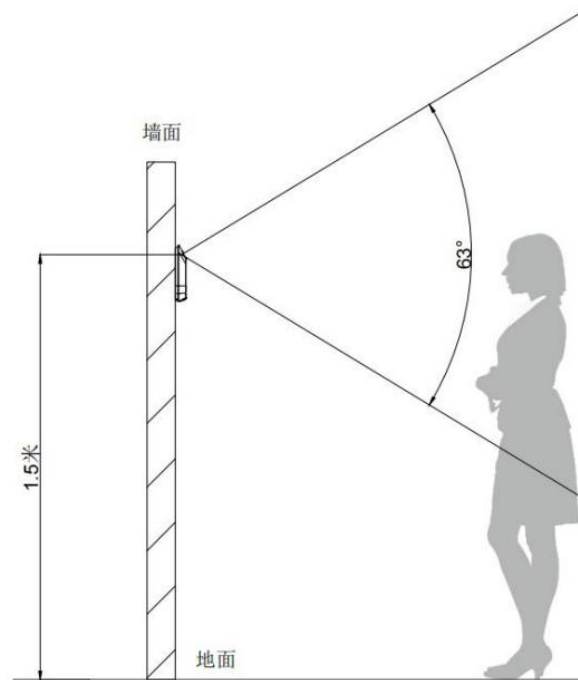
2.1. Product appearance diagram



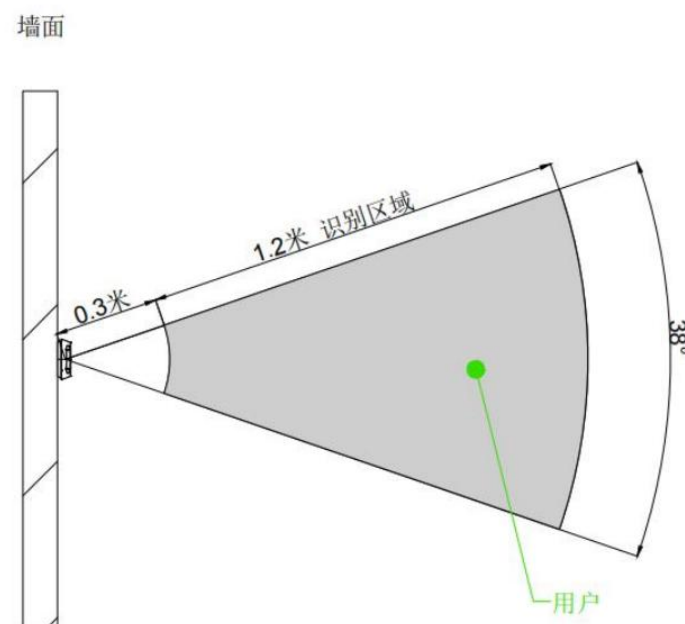
2.2. Product dimensions



2.3. Reading the schematic diagram of the area



side



vertical view

3. Parameter specifications

3.1. system parameter

Product Parameter		
system parameter	Operating system: Linux	
	Storage capacity: 8GB	
	Processor: ARM Cortex A7 MP2 1GHz	
	NPU: 0.6 TOPS computing power	
display screen	Size: 5-inch LCD screen	
	Resolution: 480*854	
communicati on mode	Wired: 1 adaptive 10/100M port	
	Wireless: Scalable 4G support	
	RS485 for line 1	
	1 Route Weggen 26/Weggen 34	
physical interface	Relay: 30V1A	
	2-channel alarm signal input interface	
Power supply	Power supply voltage: 9 ~ 24V (DC) (12V recommended)	
	Power consumption: Max.7W	
camera	RGB camera	Field of view: D=70.3°H=63°V=38°
		Aperture: 2.0
		Resolution: 1920*1080
		Focal length: 4.35mm
	Infrared	The field of view is D=68°, H=60°, V=37°.

	camera	
		Aperture 2.2
		Resolution 1616*1232
		Focal length 2.35MM
loudspeaker	Built-in 8Ω 2W speaker	
material quality	Fireproof PC+ Acrylic Glass	
Working temperature and humidity	Operating temperature: -20℃ to 55℃	
	Working humidity 10% ~ 90% (no condensation)	
levels of protection	Electrostatic Protection: 8KV for contact, 15KV for air	
	IP54 dust and water resistance rating	

3.2. Facial performance parameters

Facial performance parameters	1: N Algorithm for Dynamic Face Detection (Resistant to Photo and Video Attacks)
	Hardware infrared live detection (anti photo/video attack)
	The capacity is 2000 images.
	Recognition distance 0.3-1.5M
	Pass rate: ≥97% (when capacity reaches 2000 sheets)
	False positive rate ≤0.01% (when the capacity reaches 2000 sheets)
	Recognition time <1s

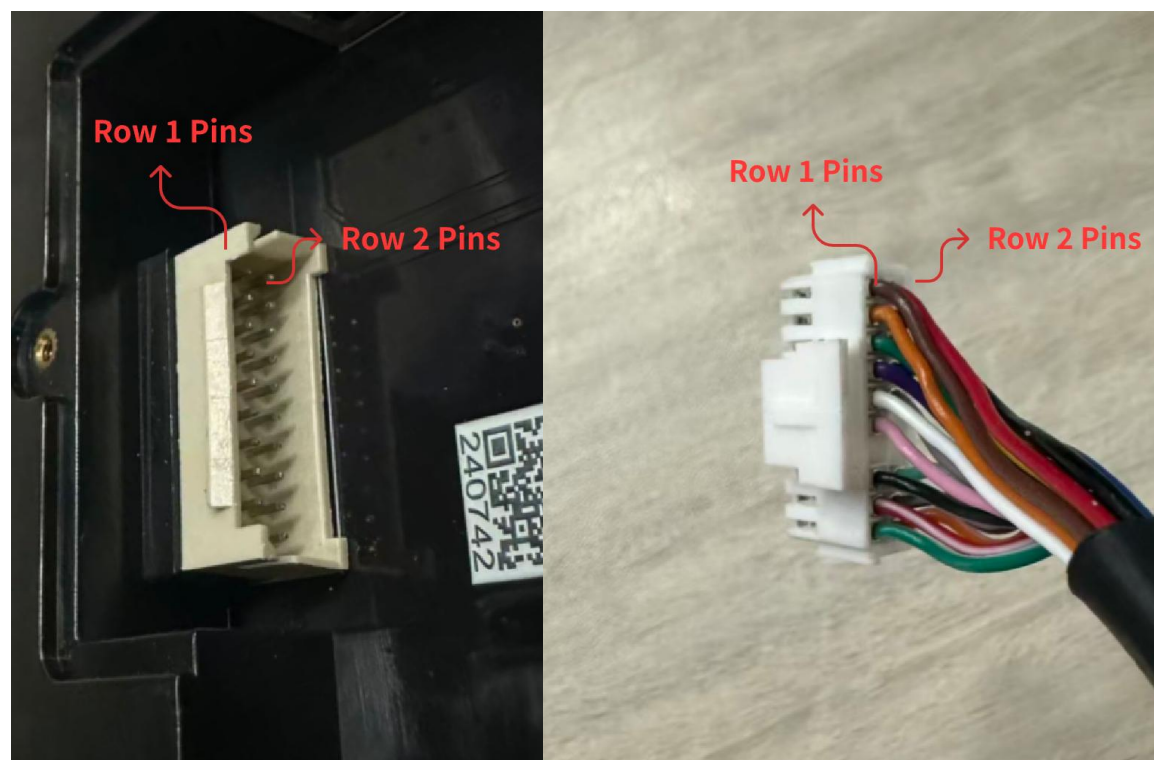
3.3. Card swiping performance parameters

Card swiping performance parameters	
antenna specifications	13.56MHz
antenna size	30mm*30mm
Card reading distance	0-5cm (The card type and specifications may vary, so the card-swiping distance may differ)
Supported card types	S50, S70, FM1208, FM1216-137, MIFARE CLASSIC EV1 4K (S70), mifare desfire ev2 d42, UL, FM12081K+7K, NTAG216, ultralight c, UL EV1, DESFIRE EV2 D41, Ultralight EV1, Mifare Desfire ev2 d82, ID card

4. interface definition

Note the correspondence between device interface pins and cable connectors! View the cable connectors from the front, where the left side corresponds to the second layer of device interface pins!

	First layer pin definition		Second layer pin definition	
1	GPIO_IN1	alarm interface	VCC_IN	positive terminal of power supply
2	GPIO_IN2	alarm interface	GND	grounding pin
3	WG-D0	Weigen D0	GND	grounding pin
4	WG-D1	Weigen D1	GND	grounding pin
5	RS485-B	485 Interface B	GND	grounding pin
6	RS485-A	485 interface A		
7				
8	RELAY_NO	electric relay NO	RELAY_NO	electric relay NO
9	RELAY_COM	electric relay COM	RELAY_COM	electric relay COM
10	RELAY_NC	electric relay NC	RELAY_NC	electric relay NC



5. Device Instructions

5.1. configuration

5.1.1.DEVICE LOCAL CONFIGURATION

After the device starts up normally, click the configuration button on the right side of the screen to enter the device settings menu (requires administrator password or face recognition). The device menu list is as follows:

- Select local users to add, delete, or edit personnel and their access credentials on the device.
- Select Network Settings to configure the device's WIFI and Ethernet connection options.
- Select access control management to configure operations for relays, MQTT, and other devices.
- Select system settings to configure other features.
- Select device information to view the device's SN number, firmware version, and more.
- The query record saved the passage records.
- Select voice playback to modify the audio content.
- After activation, the cloud certificate feature enables online identity verification.
- A QR code is saved in the Help section. Scan it to view the tutorial.

5.2. Face Registration

Users can refer to the following scenarios for quick setup.

5.2.1.OFFLINE LOCALLY

5.2.1.1. Scene Description

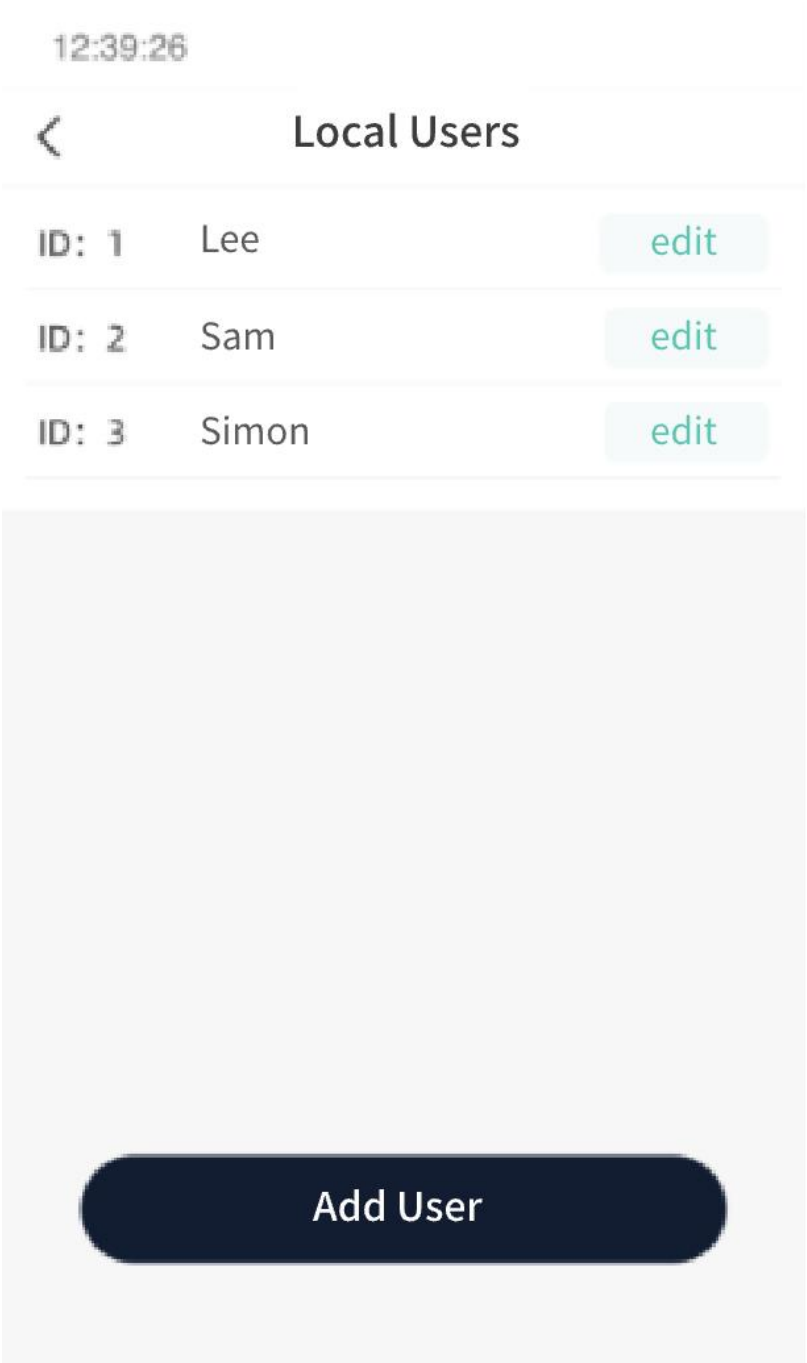
1. The device does not require an internet connection.

2. After registering your face, you can pass freely.

5.2.1.2. Set up workflow

1. Tap the configuration button on the screen to access the settings page (you may need to enter the configuration password).

2. In the Local Users menu, click Add Person.



3. Enter the custom ID and name to complete member creation.

12:39:26

< Add User

ID	0001
Name	David
ID Number	Please enter
Face Credential	 edit 
Password	12564 edit 
Card ID	98798798 edit 

Save

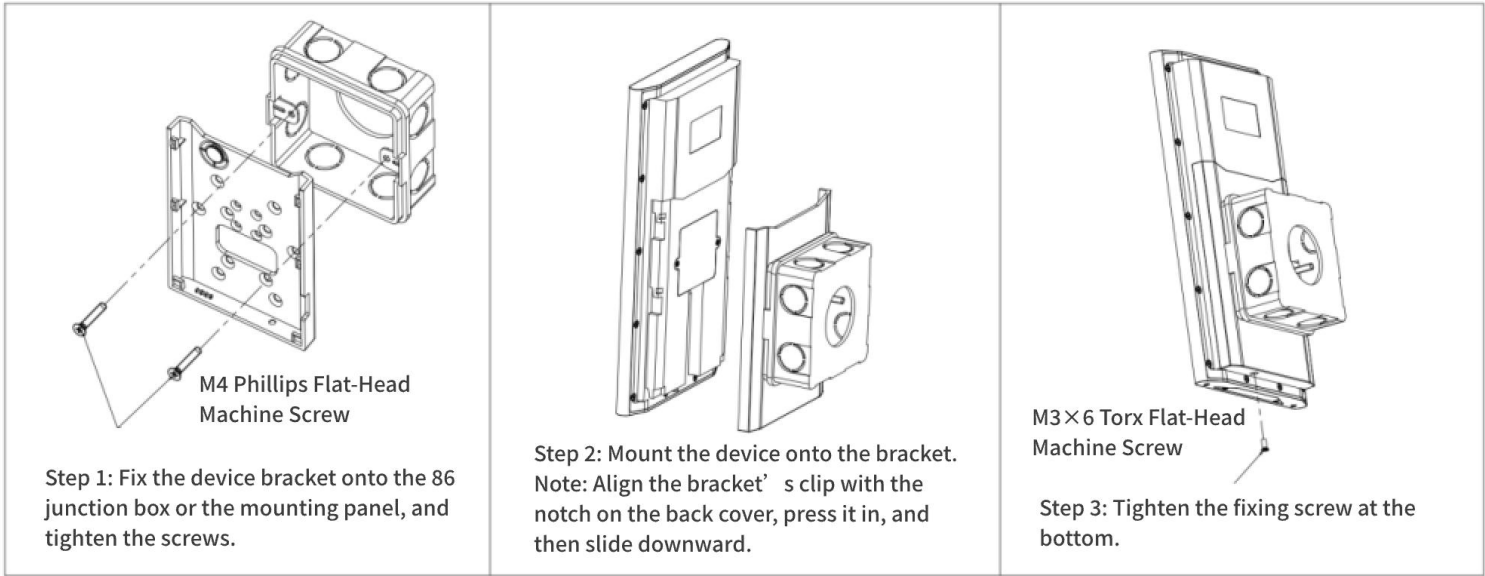
Delete

4. On this page, click the button next to your face, password, or card credential to enter the corresponding verification.

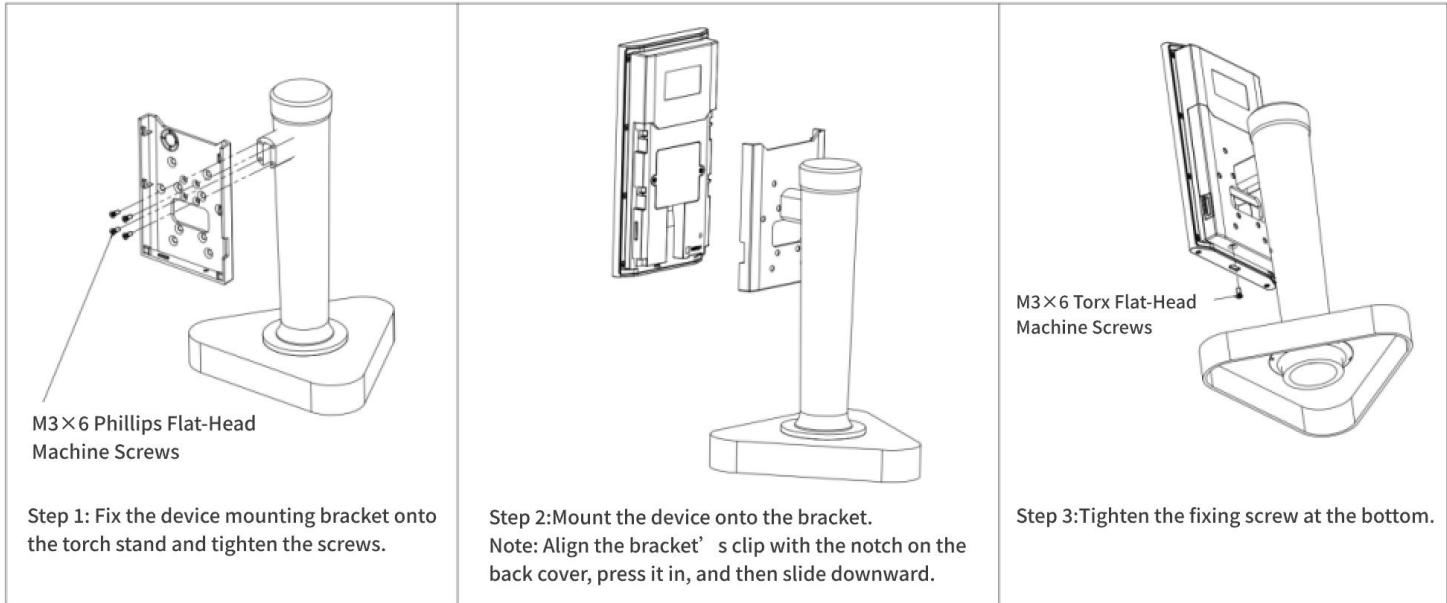
5. Click Save to complete the person creation.

6. method of erection

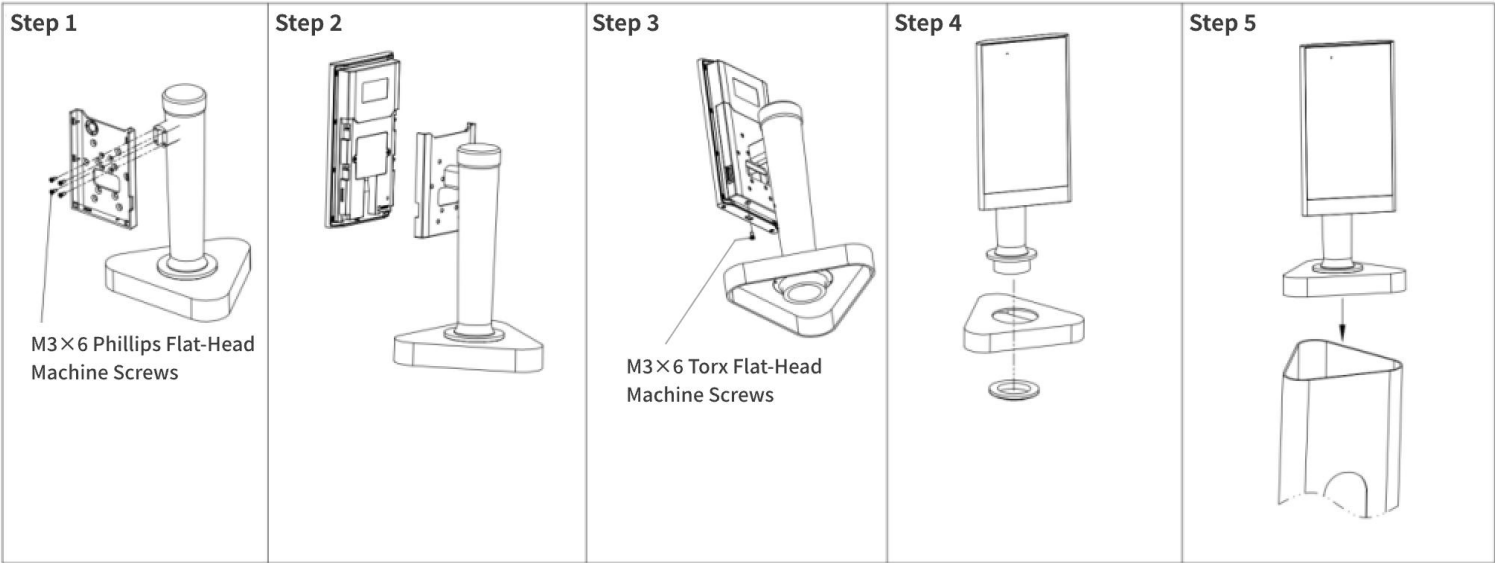
VF202 86 Box Installation Diagram



FCV5002 Torch Stand Installation Diagram

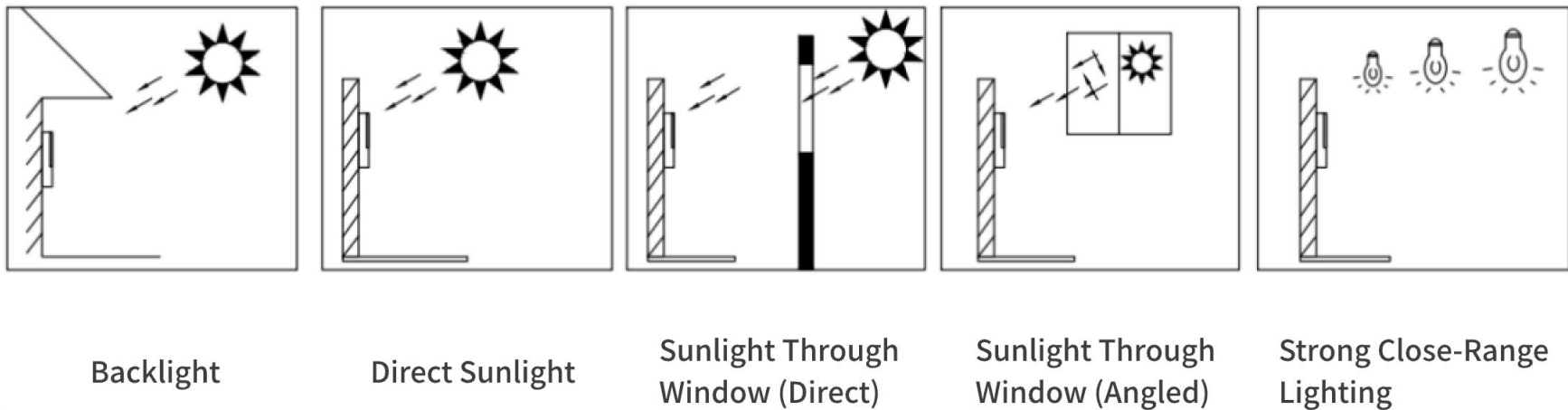


FCV5002 Pole Installation Diagram



7. matters need attention

- 1, The device operates on a 9-24V power supply, which can be drawn from the host computer's power source or supplied independently. Excessive voltage may cause the device to malfunction or even be damaged.
- 2, Do not disassemble the device without authorization, as it may cause damage.
- 3, Avoid direct strong light on the device installation location. Otherwise, it may affect the reading performance. Keep the face camera and scanner panel clean to ensure normal reading.



- 4, The equipment wiring must be secure and reliable. Insulation must be maintained between wires to prevent short circuits that could damage the equipment.