

Intelligent Face Recognition Terminal

VF206 User Manual



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1. Preface

Thanks for using the VF206 face recognition and voice interaction all-in-one device. Carefully reading this document can help you understand the functions and characteristics of this device, and quickly master the use and installation methods of the device.

1.1. Product introduction

VF206 adopts a quad core 64 bit Cortex-A55, with a main frequency of up to 2.0GHz, 1TOPS NPU, Android 11 system configuration, 2GB memory and 16GB storage, customizable expansion to 4GB memory, 32GB/64GB storage; integrated face recognition (capable of storing 100000 images with a recognition rate of over 99%), channel control, access control, and other product functions, with three communication methods: RS485/232, Ethernet, and WiFi.

This product features an 8-inch touch screen, voice broadcasting, and good interactivity and ease of use. Can be used in industrial parks, office buildings, banks, schools, and other scenarios.

The VF206 device can support multiple protocol modes, and users can conduct secondary development based on the Android SDK provided by our company.

1.2. Product feature

- Quad core 64 bit Cortex-A55, with a main frequency of up to 2.0GHz and 1TOPS NPU. Android 11 System Configuration.
- 8-inch high brightness LCD touch screen, face recognition, and live voice broadcast prompts.
- Up to 100000 face databases with over 99% recognition accuracy and recognition time ≤ 0.3 seconds per person.
- The recognition distance is 0.3-1.5m.
- Supports wide dynamic recognition, with a dynamic range greater than 80dB.
- Adapt to Baidu face algorithm.
- Personnel wearing masks, glasses, and hats can effectively identify and support mask detection.
- Built in silent live detection, which can effectively block photo, video, and mask attacks.
- WiFi/Ethernet, 2 networking options available.
- Provide SDK and support secondary development.
- External alarm input, door magnetic status input, door switch input, face ID output.
- Equipped with one RS485/RS232 interface, which can be connected to the access control

controller.

- Equipped with a high-precision clock chip and RTC battery, it can save time when powered off.
- Static electricity protection contact 8KV, air 10KV.
- The waterproof and dustproof level can reach IP66.
- Support logo customization, protocol customization and OEM.
- Support gate, 86 box, flat wall, column, and desktop installation.

1.3. Technical parameter

Type	Configuration/ Features	Description/Parameters	Expand
Overall unit	Product type	Face recognition, channel control, access control machine	
	Product model	VF206	
	Main chip	Quad core 64bit Cortex-A55	
	Main frequency	2.0GHz	
	System	Android 11	
	Processor computing power	1TOPS	
	Memory	2GB	4GB
	Storage	8GB	32GB/64GB
	System startup time	≤60s	
	Working voltage	9~24V (Recommended 12V power supply)	
	Power	13.2W (Max)	
Appearance	Material	Aluminum alloy CNC	
	Surface treatment	Anodic oxidation	
	Color	Silvery	
	Size	242*129.5*20mm	
External	Electrical interface	Power supply, 30V/1A relay, Ethernet, 485/232,	USB_OTG

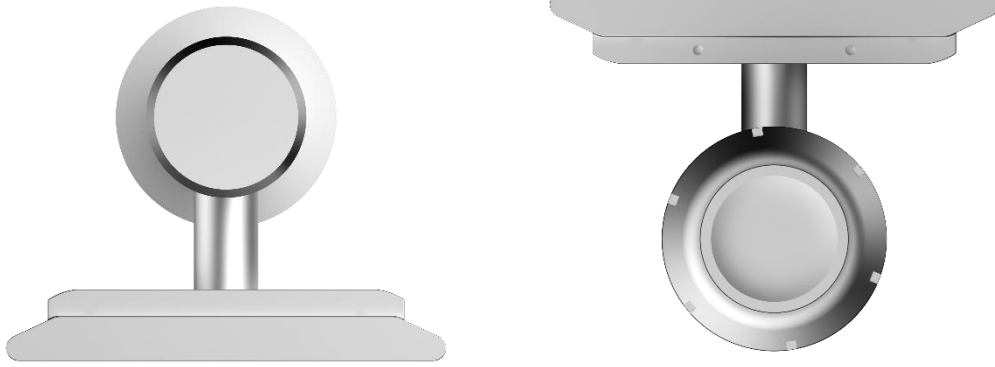
interface (outgoing line)		alarm input, gate magnetic input, USB * 2	and USB_HOST
	Physical interface	8P8C RJ45, 5525 DC circular port, 3.5mmscrew terminal, USB-A female port	
Network/ Wireless	Ethernet	10/100M Ethernet	
	WIFI	2.4G WiFi	
	Bluetooth	Bluetooth 4.2	
Face recognition	Camera version	200W RGB recognition, 200W IR in vivo Dynamic range > 80dB	
	Recognition mode	1: N recognition, 1:1 recognition, can be switched through configuration	
	Recognition time	≤300ms	
	Recognition distance	0.3~1.5m	
	Face library	100000 sheets	
	Recognition rate	More than 99% (when the face database reaches 100000)	
	Light adaptation	Can be used in direct sunlight and pure black environments	
Complete machine protection	Face input	1) Mass import on PaaS platform 2) Mass import of USB disk	
	Waterproof and dustproof	IP66 (excluding temperature measurement module)	
	Electrostatic protection	Contact 8KV, air 10KV	
Environmental characteristics	Surge	Power, Ethernet, 485 Differential mode 0.5KV, common mode 1KV	
	Working temperature	0~55℃	
	Storage temperature	-40~80℃	
Man-machine	Humidity	10%~90%	
	LCD	8-inch LCD touch screen display	

interactive	TP	Capacitive touch, 5-point touch	
	Voice interaction	1pcs 4 Ω 2w speaker Support TTS	
Other	Configuration method	Tool platform, touch screen	
	Environment protection	RoSH	
	Application Scenario	Indoor and outdoor	
	Lens hood	Sheet metal hood, painted, white	
Installation method	Desktop	Adapt to standard desktop base	
	Wall mounted	Support 86 box and flat wall, reserved trunking	
	Gate/column	With a torchbearer, support gate and column	
Adapter	Power adapter	12V/5A three plug power adapter	

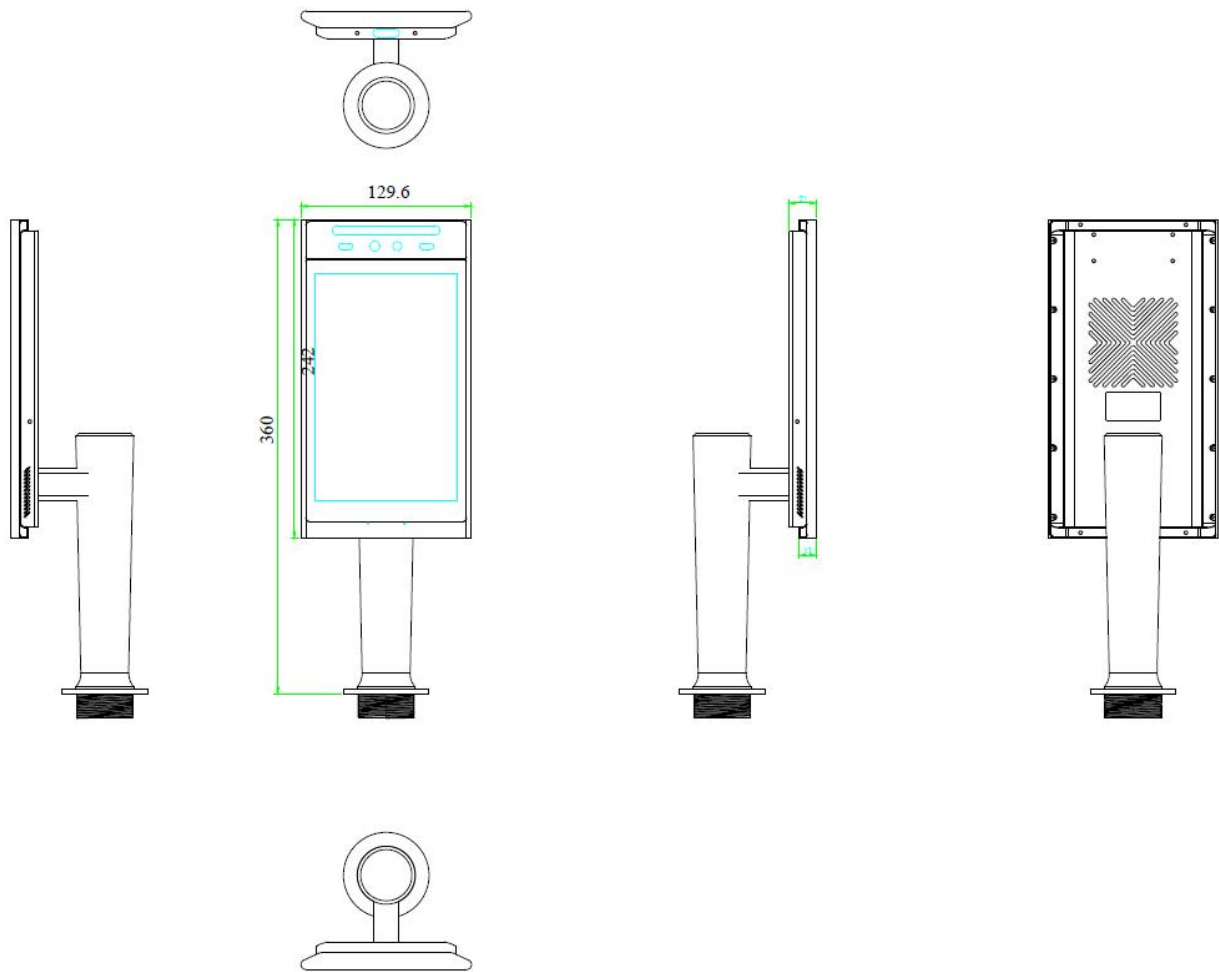
2.Product appearance

2.1. Appearance diagram

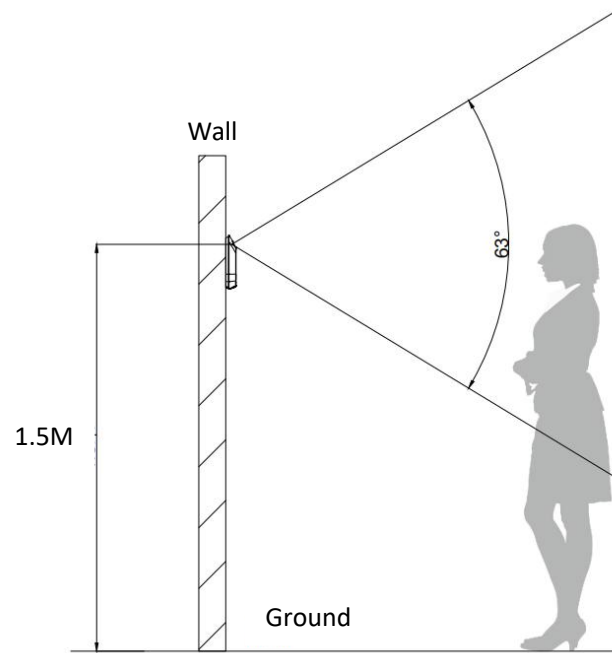




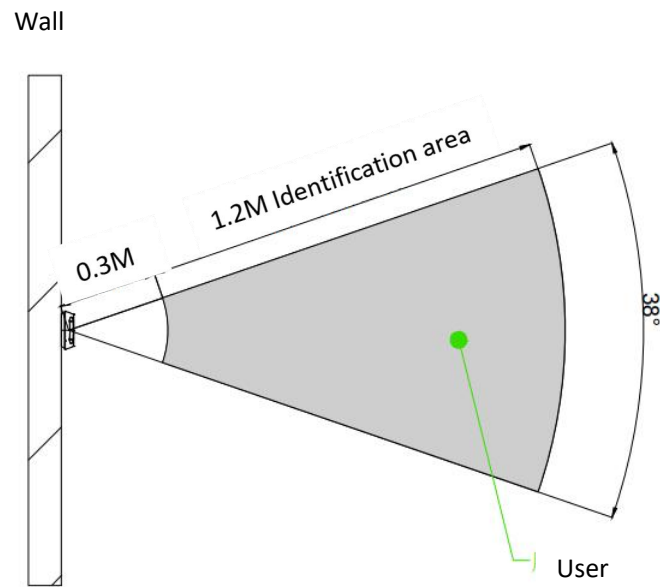
2.2. Schematic diagram of external dimensions



2.3. Schematic diagram of reading area



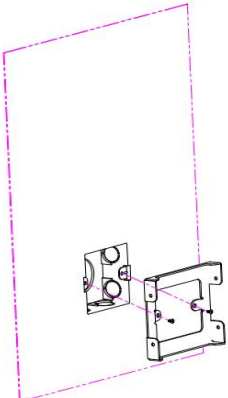
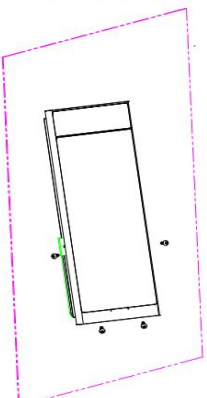
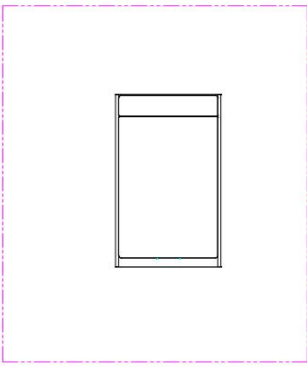
Profile



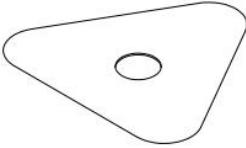
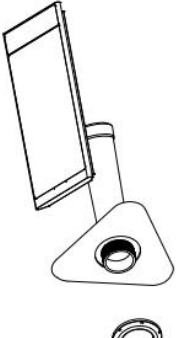
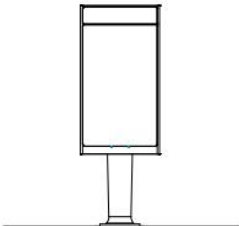
Vertical view

2.4. Installation method

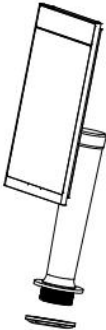
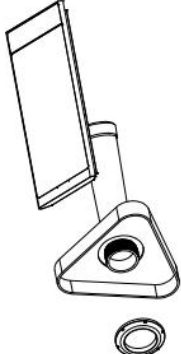
86 box installation

		
Step1:Connect metal bracket and 86 box screws.	Step2:Install the device to the 86 box, connect side by screws.	Step3:Complete installation.

Gate installation

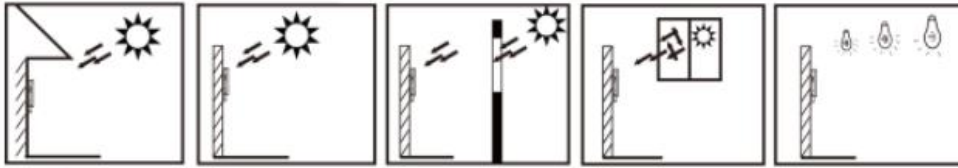
			
Step1:The opening size of the gate panel has a diameter of 34mm.	Step2:Remove the torchbearer nut.	Step3:Fix the panel to the torch holder and connect the wiring terminals.	Step4:Assemble the panel to the gate and complete the installation.

Column installation

			
Step1:Remove the upper cover plate of the column.	Step2:Remove the torch holder nut.	Step3:Fix the upper cover plate and torch holder.	Step4:Assemble the upper cover plate to the column.

Installation notes:

Avoid backlight, direct sunlight, direct sunlight through windows, oblique sunlight through windows, and close light.



Backlight

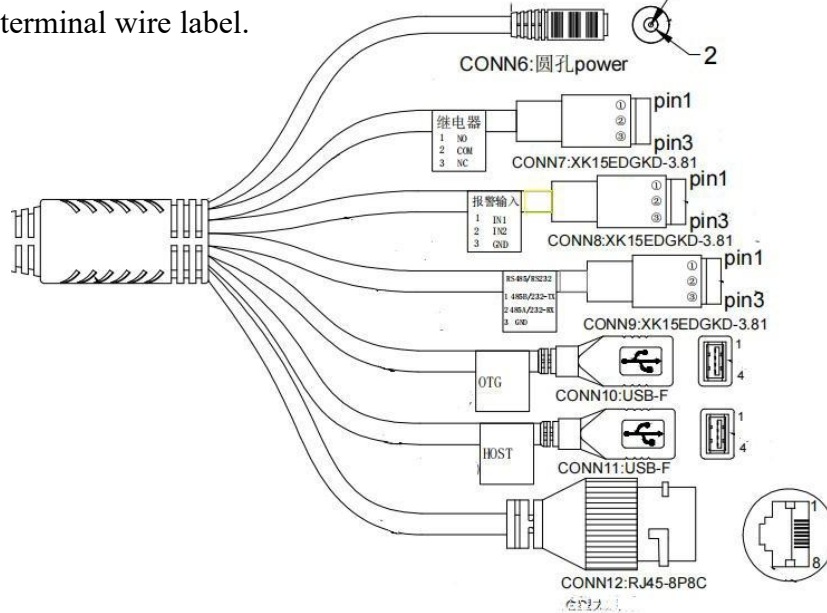
Direct
sunlightDirect
sunlight
through
windowsOblique
sunlight
through
windows

Close light

2.5. Device Wiring

Port description

Seven wiring terminals are led out from the face device, and the wiring is defined according to the terminal wire label.



Port Name	Pin number	Pin Definition
Power interface	DC round head	12V power supply
Relay interface	1	NO: Normally open end of relay
	2	COM: Relay common terminal
	3	NC: Normally close end of relay
Alarm input	1	IN1: Alarm input 1
	2	IN2: Alarm input 2
	3	GND: Ground wire
RS485/RS232	1	485B: 485B wire 232-TX: 232 transmission pin
	2	485A: 485A wire 232-RX: 232 receive pin
	3	GND: Ground wire
USB-OTG	Female head	USB data
USB-HOST	Female head	USB data
Network interface	RJ45	Connect network wire

86 version harness description

1	VCC		Red
2	GND		Black
3	485B		White
4	485A		Blue
5	GND		Brown
6	D0		Orange
7	D1		Yellow
8	IN1		Green
9	IN2		Purple
10	NO		Grey
11	COM		Pink
12	NC		Cyan

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3. Notes

Face registration photo requirements

Face pixels: minimum 80, maximum 512

Image size: 50 ~ 300K

Image height and width: 512 ~ 800 wide, 640 ~ 1024 high

Image format: JPG

Background requirements: life photos, no beauty filters, no heavy makeup, no sunglasses, scarves, masks, etc.

Face registration requirements

During face registration, the face needs to be in the registration box. It is best to occupy all the registration boxes, and look at the registration box for 2-3 seconds, waiting for the device to complete registration.。

Wiring requirements

For unused pins, insulation treatment must be done!

If the equipment is short circuited or damaged due to lack of insulation treatment, the user shall bear the responsibility themselves !