



FD22 Face Module User Manual

FD22 Video Intercom Face Module Specification

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Huashengtong (Wuxi) Imaging Technology Co., LTD



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1 Module Overview

1.1 Features of 1 Module

FD22 high-performance visual intercom face module is a binocular living body face recognition solution customized for face recognition application scenarios, creating a more secure, reliable, easy to use and cost-effective biometric product.

The module employs dual-camera facial recognition technology with bionic algorithms, supporting UVC/UAC transmission of MJPEG video formats and two-way video intercom functionality. It achieves industry-leading security while delivering user-friendly features including fast recognition speed, low power consumption, strong environmental adaptability, and wide height coverage. Key specifications include:

- ✓ Supports binocular living face recognition, simple operation, fast identification, high accuracy, strong adaptability
- ✓ Low cost/high performance: The use of face recognition module can achieve the goal of low cost/high performance
- ✓ Supports UVC transmission of MJPEG video format and two-way voice intercom function

1.2 Applied Range

FD22 high performance video intercom face module is widely used

- ✓ Security: smart door lock, attendance system, safe deposit box, access control system
- ✓ Government affairs: medical insurance, pension, government software, authorization and license, etc



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2 Parameter

2.1 Technical Parameters

Table 2-1 Technical Parameters		
project	technical parameter	
Module dimensions	40*20mm	
working voltage	5.0V~9.0V	
working current	300-335mA	
Time to power on	< 0.34s	
joggle	UART	4pin, 3.3v TTL, 115200bps
	USB 2.0	5pin, UVC
RGB camera lens	resolution ratio	1/6.5", 1280H x 960V
	FoV	H 60.4°, V 47.6°, D 72.6°
IR camera lens	resolution ratio	1/6.5", 1280H x 960V
	FoV	H 60.4°, V 47.6°, D 72.6°
face recognition	user capacity	100
	Registration distance	35cm~100cm
	Distance to the equinox	40cm~100cm
	The rejection rate	< 0.1%
	Misidentification rate	< 0.001%
Vein recognition	1: N search time	< 1s
	user capacity	100
	Registration distance	20cm~30cm
	Distance to the equinox	20cm~30cm
	The rejection rate	< 0.1%
Environment and reliability	Misrecognition rate	< 0.001%
	1: N search time	< 1s
	Storage temperature	-40°C ~ 85°C
	working temperature	-30°C ~ 70°C
	Humidity at work	<93%, no condensation
	static electricity	ESDHBM ±2000 V



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2.2 Supported Video Formats

Table 2 - 2 Supported Video Formats			
order number	type	pixel	frame rate
1	640*480	VGA	37
2	1280x720	720P	30



3 Hardware Interface



Figure 3-1 Front of F D 2 2 Module

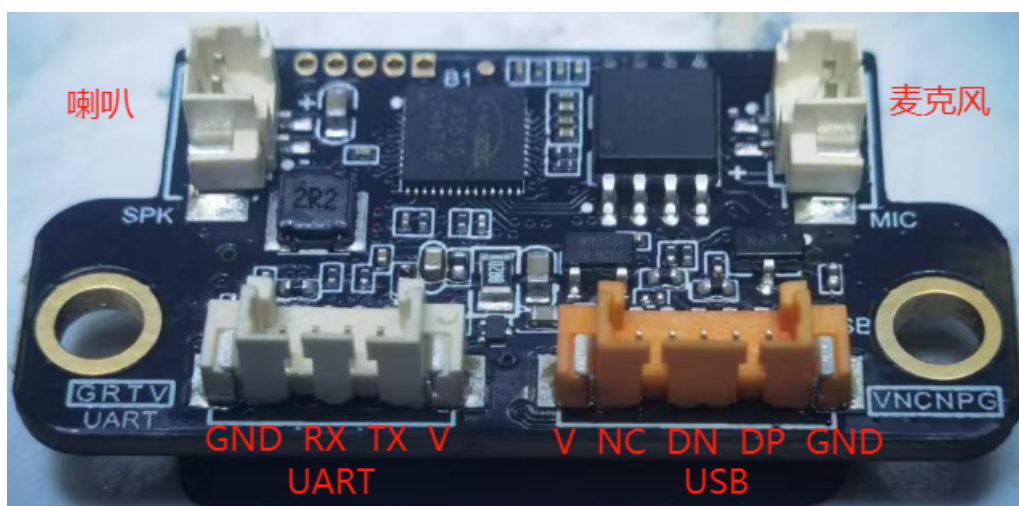


Figure 3-2 Back of FD22 Module

Note: The module uses UART serial port for external communication, TX is connected to the host computer RX, RX is connected to the host computer TX.



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3.1 Cat Eye (USB) Interface

The USB interface cable sequence is shown in the figure, and the signal definition is as follows:

Table 3-1 FD22 USB Interface Definition

Port number	Port name	direction	explain
1	GND	-	the earth
2	USB DP	I/O	USB D+
3	USB DN	I/O	USB D-
4	NC	-	-
5	VUSB_5V	I	Power supply (5-12v)

The USB port is a UVC port.

3.2 Gorge Line (UART)

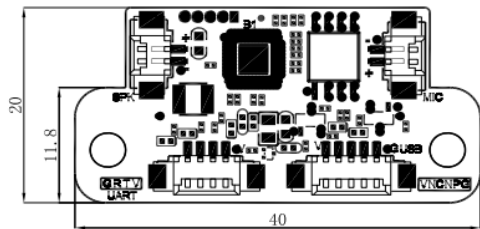
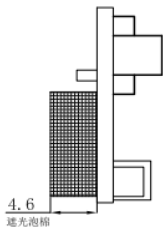
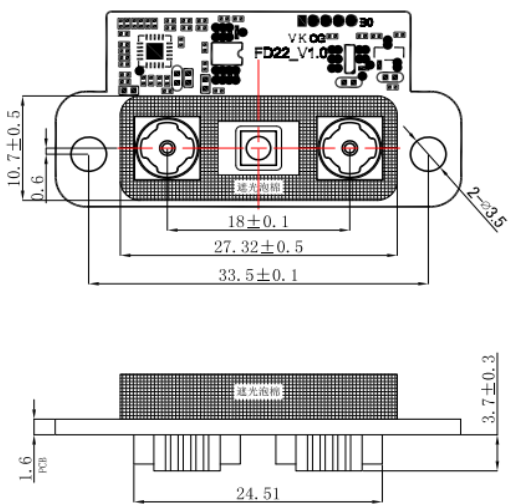
The sequence of the serial port cable is shown in the figure, and the signal definition is as follows:

Table 3-2 FD22 Debugging UART Interface Definition

Port number	Port name	direction	explain
1	VBUS_5V	I	Power supply (5-9v)
2	TXD	O	Serial output
3	RXD	I	Serial input
4	GND	-	the earth



4 Mechanical Dimensions Diagram



公差								
范围	值	标记	处数	变更内容				担当
0-25	±0.2							
25以上	±0.3							
		料号		品名	FD22人脸模组			
		单位	mm	设计	日期	2024/11/25	材质	
		比例	2:1	审核	日期		后处理	
		版次	A	核准	日期			