Face Recognition Module

Technical Specifications

Product Introduction

The face recognition module FRM-001-S is a face recognition product developed by GRG Intelligent Technology Solution Co., Ltd. It adopts high-performance ARM processing unit, high-standard production process, powerful performance and exquisite appearance. The module has the characteristics of fast face recognition speed, high accuracy and anti-counterfeiting detection. It can be used in face recognition systems such as face gates, access control, attendance, and ID card detection.
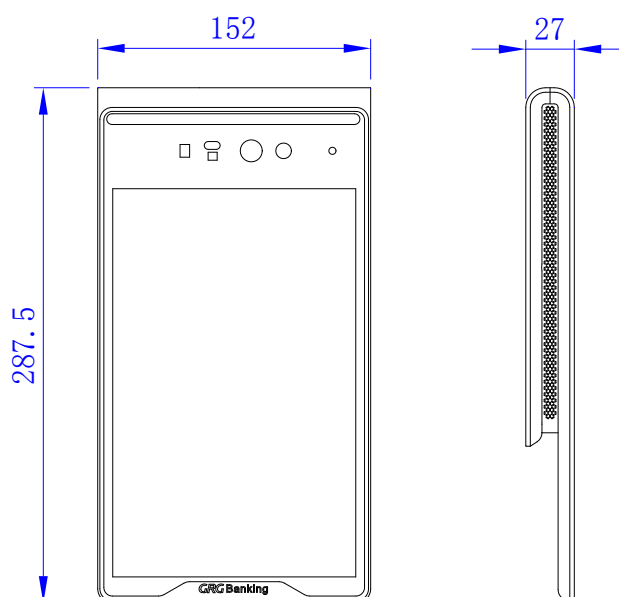

Features

➢ Leading face recognition algorithm, supports face capture, preprocessing, feature value extraction, and average liveness detection time ≤ 100ms

➢ 3D structured optical camera (binocular camera optional) with face anti-counterfeiting function, anti-mask, photo and video attack

➢ ARM six-core processor, main frequency up to 1.8GHz, dual-core Cortex-A72 + quad-core Cortex-A53

➢ 10.1-inch IPS high-definition display, resolution 1920X1200

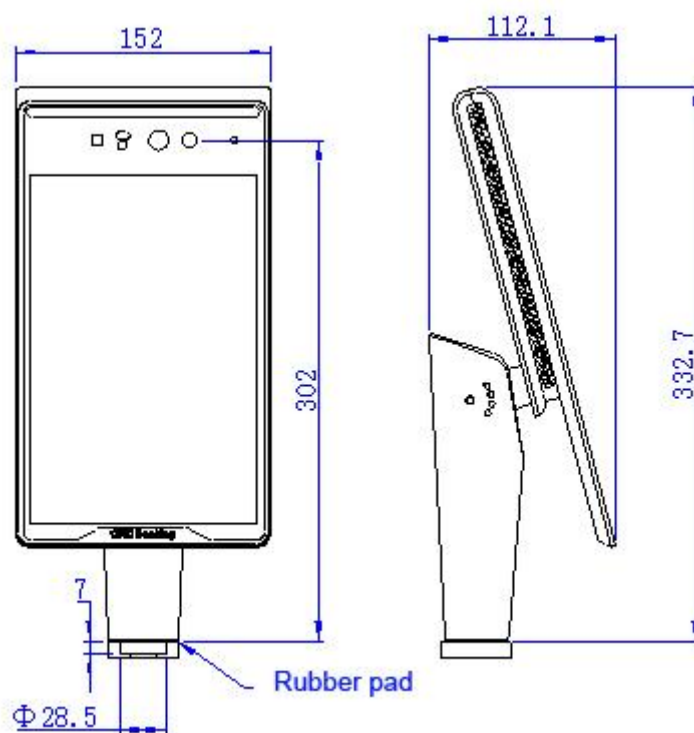➢ Durable and beautiful anodized aluminum alloy shell, turbo fan cooling system

Technical Parameters

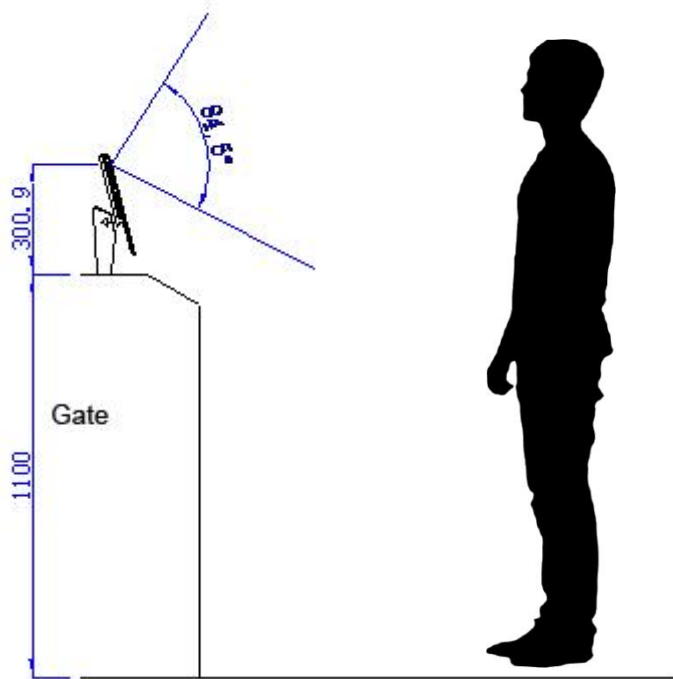| Product Name	Face recognition module
Product Model	FRM-001-S
Identification method	1:N, 1:1 Choose one
Face capacity	≥10000 People
Average time for liveness detection	≤100ms
Recommended recognition distance	0.28~1.2 meters
Core Modules	ARM (MAX main frequency = 1.8G, 6 cores), 4G memory
Storage Module	Onboard high-speed storage 32G
Operating system	Android
Image acquisition	2 megapixel visible light + 3D structured optical liveness detection camera
Camera Features	HDR high-definition wide dynamic range camera, adapting to different lighting environments
Camera angle of view	Visible light FOV: vertical viewing angle 84.5 degrees, horizontal viewing angle 53.8 degrees
Display	10.1 inches, 1920*1200 pixels, display ratio: 16:10
Display screen protection	Tempered glass
Face anti-counterfeiting	Supported, can prevent non-living attacks such as face masks, photos, videos, etc.
Product Material	Anodized aluminum alloy, tempered glass
USB interface	1*USBOTG，1*USB2.0
Other interfaces	1*RS232
Network Interface	10/100/1000MB adaptive RJ45 Ethernet interface, wifi Bluetooth
Sound and light system	LED technology fill light and 3-color prompt light, support 2W speaker
Cooling System	Turbo fan cooling
Product size	Length 287mm x Width 152mm x Thickness 27mm
Usage Environment	Temperature: -10℃~50℃ Humidity: 10% to 90% without condensation
Protection level	IP53, certain dust and water resistance
Power supply and rated power	12V 2A 24W
Installation	Optional gate bracket, embedded installation, floor bracket, wall mounting

Product size

Bracket size of gate machine

Rubber pad

Installation diagram of gate bracket

The camera elevation angle can be adjusted to 0°, 5°, 10°, 15°, and 20°. The bracket fixing screws can be adjusted according to the on-site conditions.

If used for the modification of existing gates, it is recommended to cover the bracket holes and fixing holes on the gates with sheet metal after determining the angle a, and fix them with 4pcs of M4 screws. Or only cover the bracket holes on the gates with sheet metal, rotate the module to the appropriate angle, and fasten it with the matching fixing ring;

If used for newly designed gates, cover the fixing holes and bracket holes on the gates with sheet metal, and fix them with 4pcs of M4 screws. The opening size is as follows. Angle a can be set according to the position where the module is fixed to the gate.
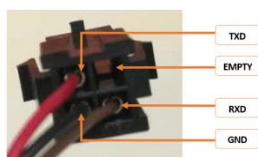
Appendix

Electrical interface description

Module power supply: DC 12V±5% Current Max 2A Interface 2pin double-row plug 3901-2020 (MOLEX) (see the figure below),

Pin Number	Electrical Definition
1 black	GND
2 red	12V

Serial signal control: RS232C interface MOLEX 43020 female connector (see the figure below)

Pin Number	Electrical Characteristics
2	RXD
3	TXD
1	GND

Network port: Standard Gigabit network port, RJ45 female connector (see the figure below)

USB signal: USB2.0 interface USB (stdA) female (see the figure below)