- Specification -

Device Type : Face Recognition Terminal

Model : UBio-X Face Pro V1.0

Total number of pages : 11

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1. Overview

1.1 Device Overview

This device is a face recognition terminal and is equipped with a full HD camera and ISP of Camera 2M Pixel to recognize and control the user's face even at a distance of 2M.

It provides a convenient UI with Android OS and is equipped with Ethernet communication and WiFi functions, so it is possible to manage access, attendance, and meal management through face or card authentication in conjunction with PC server programs.

The electric lock can be directly controlled and can be interlocked with external devices through RS485, Wiegand, and RS232 communication.

It provides a convenient user interface with a capacitive touch panel and a 5-inch TFT IPS LCD and provides convenience to users by using voice guidance.

USB C Type OTG Slot can be installed to facilitate F/W upgrades and data access.

The Smart Card specification is designed with a 125KHz RF card and a 13.56MHz Smart Combo module, and an optional HID iCLASS card is also available.

1.2 **Specifications**

Item	Specifications	Remarks
OS	Android 11	
CPU	Cortex A53 Quad Core 1.8GHz (i.MX8M Plus), NPU 2.3Tops	NXP
DRAM	LDDR4 : 4GByte	
Flash Memory	eMMC 16GB (F/W, User Data & Android OS)	
USB	USB 2.0 Type-C 1Port / USB 2.0 Host 3 Port	
Camera	Color Camera: 2M Pixel (D: 70˚, H: 38˚, V: 63˚) Face recognition distance (50Cm ~ 2M)	
	IR Camera: 2M Pixel (D: 70˚, H: 38˚, V: 63˚) Liveness Detection	
Mobile Card	NFC. Bluetooth	
COMM Port	-. RS485 1Port -. RS232 1Port(Extra), RS232 1Port(Debugging) -. Wiegand IN/OUT each 1Port -. Ethernet(10/100M/1000M) 1Port, WiFi 2.4GHz b/g/n	
LCD & Touch Panel	-. 5inch, 720 x 1280 Resolution, IPS TFT LCD (Capacitive Touch Panel)	
Lock Control	EM, Strike, Motor Lock, Auto Door control	
Input Port	3 Door Monitor & 1 Exit Button	
Voice	Audio Codec IC + 8Ω 1W Speaker, Volume Control	
Tamper Function	Case Open & Removed From the wall detection	
RTC	RTC IC + Backup Battery	
RF. SC Card Module	-. 125KHz & 13.56MHz Card Reader On Board : ISO14443A/B, MiFare, Felica, ISO15693, SE iCLASS (Option)	
Input Power	DC15V/4A Adapter or DC24V/2.5A Adapter	
Current Consumption	-. MAX. 1.1A/DC15V & 0.7A/DC24V Terminal condition : Flash ON, Speaker Volume max Connected devices : Xscan-FQ5, Thermal-i2 -. MAX. 2A/15V : Terminal condition : Flash ON, Speaker Volume max Connected device : Xscan-FQ5, Thermal-i2, Electric lock : Deadbolt BEHOST BHL-700C	
Operating Temperature	-20℃ ~ +60℃ (RH 90%)	
IP Level	IP55, IK06	IP6X (Option)
Dimension	91.96mm x 199.96mm x 21.0mm	
Certification	KC / CE / FCC / JMIC	JMIC in progress
Option Device	- Finger print / Barcode / Thermal camera	
Weight	Main body : 330g , (Bracket 94g separately)	

2. **Configuration**

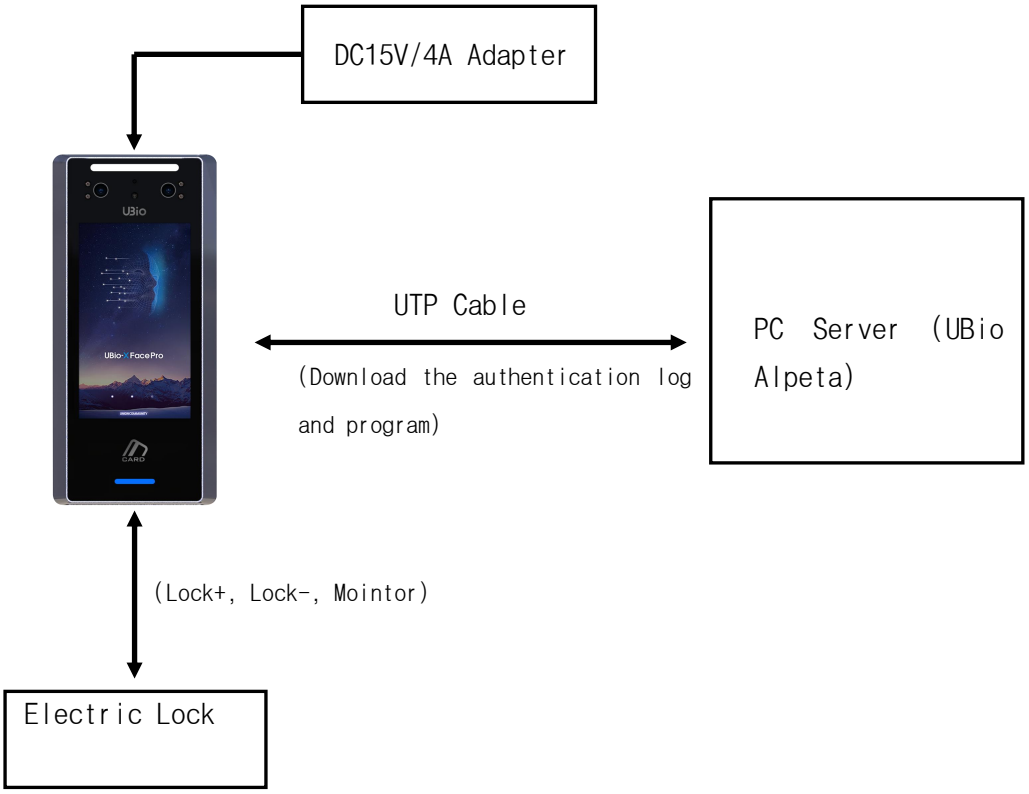
2.1 **Configuration**

Face recognition terminals are divided into face authentication processing, display and touch pads, SMART/RF card processing, Ethernet, WiFi, electric lock control, 485 communication, and other communication ports.

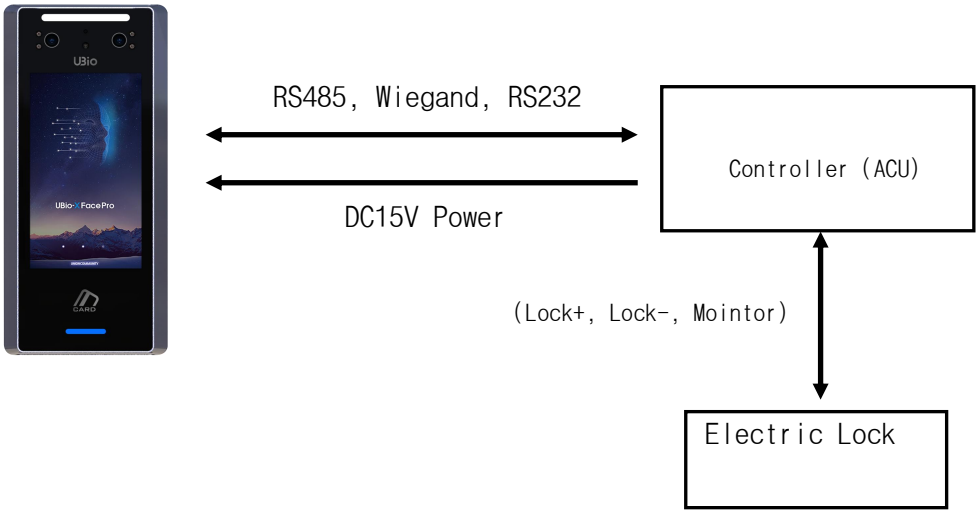
Category	Processing contents
Face recognition processing part	■ Face recognition process -. Input the face image : Input the user's face and extract the raw image data -. Extract the face minutiae : Operate the algorithm to extract the face minutiae -. Compare the face data. (Matching) : Analyze the face minutiae and search the face DB in memory to determine whether they are identical
Display & Touch pad	■ 5"TFT LCD Display and touch panel control : Display the terminal UI and status and control the user's touch input
Voice & Buzzer	■ Voice announcement and buzzer output : The voice announcement and the buzzer come out through the speaker
Ethernet	■ 10/100M/1000M Ethernet Controller : Download the access, TNA, and meal management by connecting with PC server program
WiFi & BLE Combo module	■ WiFi Controller : Wireless link with PC server program to access, attendance, meal management, voice message, and program download ■ BLE Controller : Wireless link with mobile cards to control entry and exit
Electric lock control	■ Composed of Relay and Photo Coupler :2 Relay Out(EM, Strike, Motor, Auto Door), 3 Monitor, 1 Exit
Comm. ports (including RS485)	■ Data transmission and reception using RS485/RS232/Wiegand communication : 485/232/Wiegand communication enables interworking with peripheral devices
SMART/RF Card processing part	■ Send the serial data and read Smart/RF card : It reads Smart/RF card and sends it to the main CPU through the serial port

2.2 **System configuration**

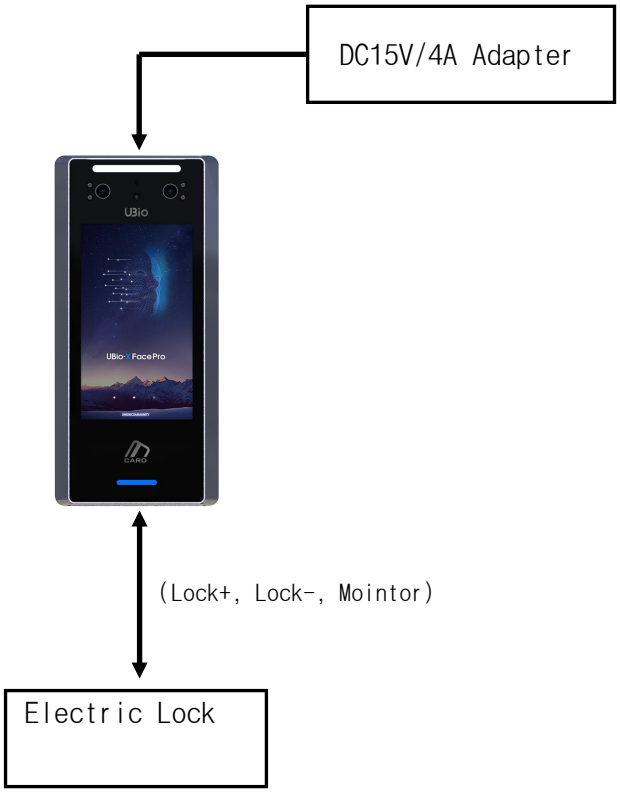
1) Connect with PC server (Access, TNA, Meal)



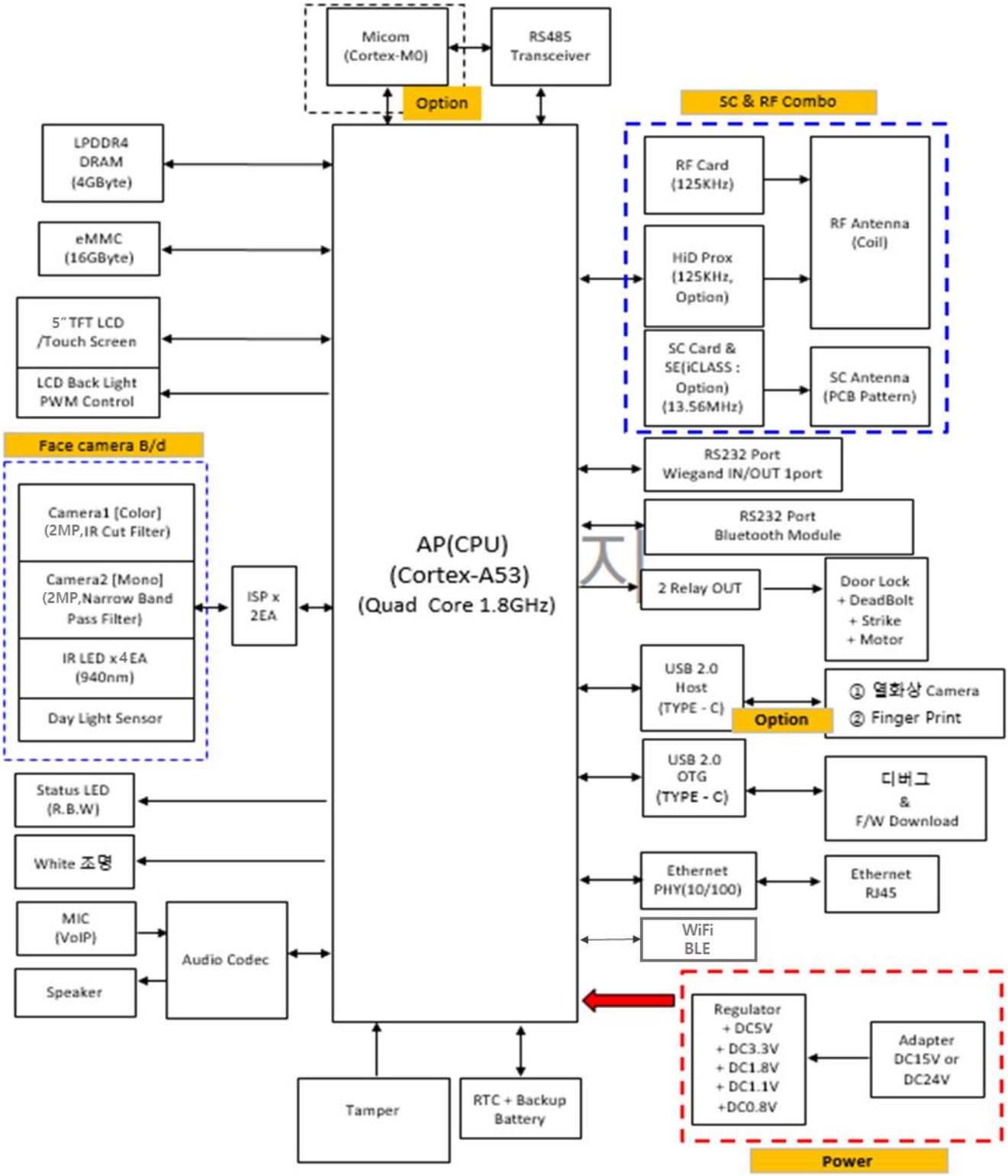
2) Connect with the controller (Crime prevention, Access)



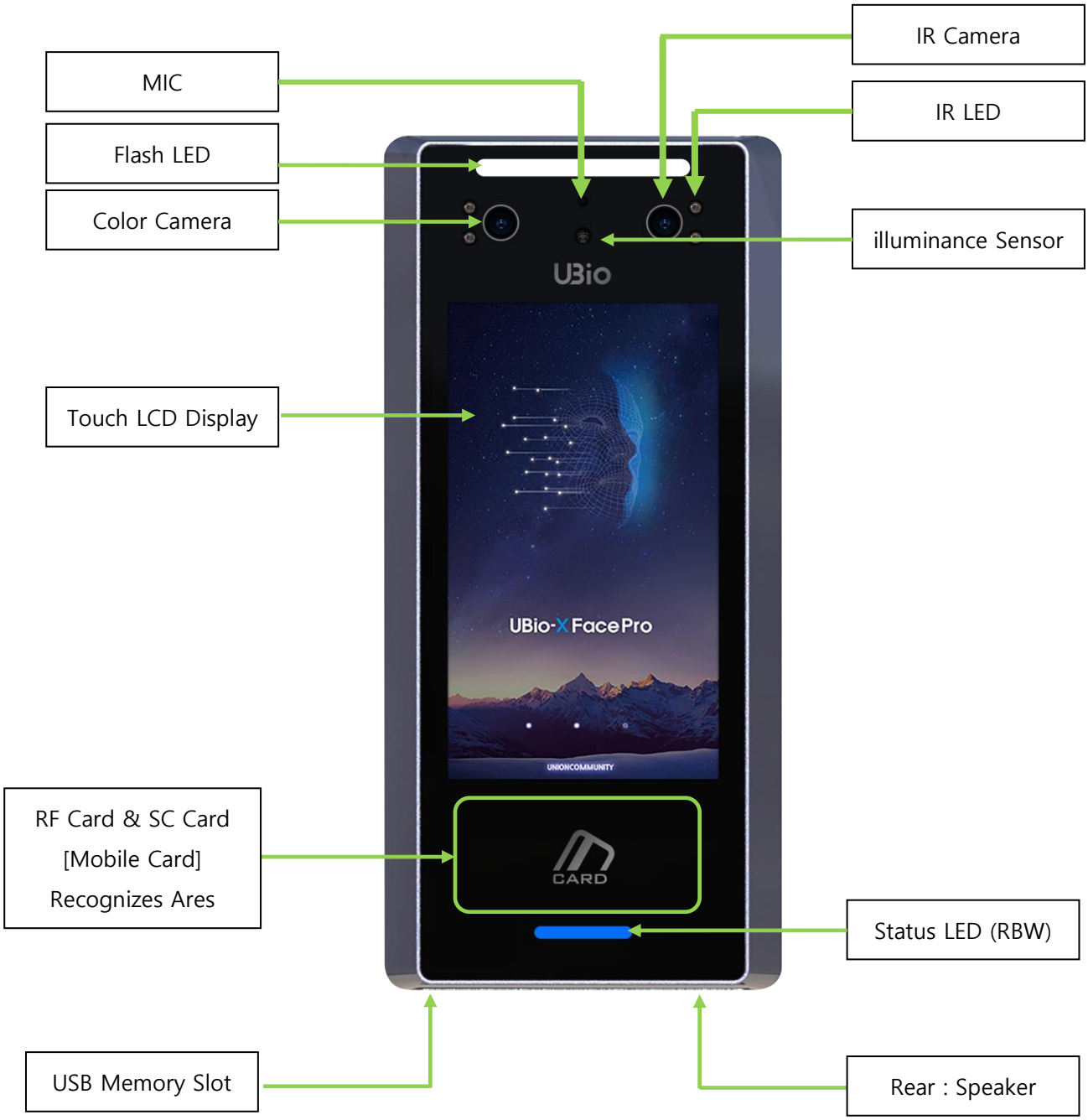
3) Stand Alone (Access)



2.3 Device configuration (Internal)



2.4 Device configuration (External)



3. Specification

3.1 Power input and operation environment

(1) Operating Voltage : DC15V~DC24V ± 5% power

(2) Current consumption : 1.1A ± 10% at DC15V & 0.7A ± 10% at DC24V

- Terminal condition : Flash ON, Speaker Volume max
- Connected devices : Xscan-FQ5, Thermal-i2

Current consumption : 2A ± 10% at DC15V (When connecting with the electric lock)

- Terminal condition : Flash ON, Speaker Volume max
- Connected devices : Xscan-FQ5, Thermal-i2, Eelectric lock : Deadbolt BEHOST BHL-700C

(3) Operating Temperature : -20℃~60℃(RH 90%)

3.2 485 specification

(1) Communication speed : 9600 bps

(2) Built-in reliability parts for Surge and Noise filter

3.3 Voice specification

(1) Voice

-. Speaker : 8 ohm/1W

-. Use Audio Codec

3.4 Tamper specification

(1) Using Metal Ground Contact Method

(2) Simultaneous acceptance of lid and wall tamper functions

3.5 LCD specification

(1) Resolution: 5"TFT IPS LCD(720 x 1280)

(2) Back-light: 30 White LED

(3) Operating Temperature: -20℃ ~ +60℃

3.6 LAN specification

(1) 10M/100M/1000M Ethernet communication

(2) Auto Detecting

3.7 WiFi/BLE specification

(1) 2.4GHz b/g/n communication

(2) Bluetooth Low Energy 5.0

3.8 Smart Card specification : 125KHz(EM), 13,56MHz On Board

(1) Communication type : ISO14443A/B, MiFare(Plus), Felica, ISO15693,NFC, iCLASS (Option),

(2) Reading distance :

13.56 MHz Type A Mifare Square Card 5 cm or greater

125KHz EM Card Square Card Reference 3 cm or greater

* Reading distance may change depending on card type.

(3) Power : DC 5V

(4) Current consumption : Max. 100mA

3.9 Camera module specification

(1) Camera: 2M Pixel Color Camera + 2M Pixel IR Camera

(2) Recognition distance : 0.5M ~ 2M

(3) Liveness Detection : 0.5m ~ 2m

(4) Matching speed : < 1sec

4.0 Finger Print [Option device]

(1) Image Dimension : 256 x 292

(2) Resolution : 500 ± 10 DPI

(3) LFD feature

(4) Template : 100,000

(5) Current: 130mA ± 10mA /3.3V

(6) Certification : Virdi, ISO 1974-2, ANSI-378

4.1 Barcode [Option device]

(1) Image Sensor : 640 x 480

(2) Symbologies : 1D/2D

(3) FOV : H: 42°, V: 31.5°

(4) Current: 138mA/3.3V