xperix

BioMini Combo 2

FAP20 certified, Single Finger and Smartcard Scanner

User Manual



INTRODUCTION

1. BioMini Combo 2

BioMini Combo 2 is the FBI FAP 20 and PIV certified two-factor authentication scanner with machine learning-based Live Finger Detection(LFD) technology. This innovative product offers unmatched protection using advanced anti-spoofing techniques to prevent fake fingers from clay, rubber, silicone, glue, paper, film, and more. Furthermore, it provides an additional layer of security with SAM(Secure Access Module) slot. Designed for indoor and outdoor use, the BioMini Combo 2 captures fingerprints under 100,000 Lux direct sunlight and with water and dustproof IP65 protection. Compatible with Windows and Linux operating systems, the BioMini Combo 2 offers versatility and flexibility for various applications.

2. Features

- FBI PIV and Mobile ID FAP20 certified fingerprint sensor
- NIST certified interoperable image & template
- Image compression standard; WSQ
- Support Windows, Linux, and Android OS
- IP65, Water and dust resistant
- Provide BioMini SDK and sample code
- Two factor authentication (Fingerprint and Smartcard)
- AI based Live Finger Detection (LFD)
- AES-256 encryption on SDK
- Secure Access Module (SAM) slot

FEATURES AND SPECIFICATIONS

1. Specifications

Sensor	Image Certificate	FBI PIV / FBI Mobile ID FAP20 compliant
	Sensor Type	Optical
	Resolution	500 ppi
	Gray Scale	256 level
	Platen Size	18mm x 25.4mm
	Sensing Area	16.2mm x 24.3mm
	Image Size	300 x 400 (W x H pixels)
HW	Interface	USB 2.0 High Speed
	Operating Temperature	-10 ~ 50℃
	Storage Temperature	-20 ~ 70℃
	Operating Humidity	0 ~ 90% RH
	Ingress Protection	IP65 (Sensor Surface)
	Dimensions (W x L x H)	95.7mm x 114.8mm x 52.6mm
	Weight	280g
SW	Windows	Windows 7 or Above (32/64bit)
	Linux	Linux Kernel 3.10.X or Above
	Android	Android 5.0 (Lollipop) or Above, USB Host
	Image Format	RAW, BMP, WSQ, ISO19794-4
	Template Type	Xperix, ISO19794-2, ANSI-378
	LFD	Supported
Card	Contact Smart Card	ISO 7816 Class A/B/C (5V, 3.0V, 1.8V) T=0 and T=1, EMV2000 contact smart card with SAM Slot (optional, max 1x SAM)
Certification	FBI, CE, FCC, KC, RoHS, WHQL	

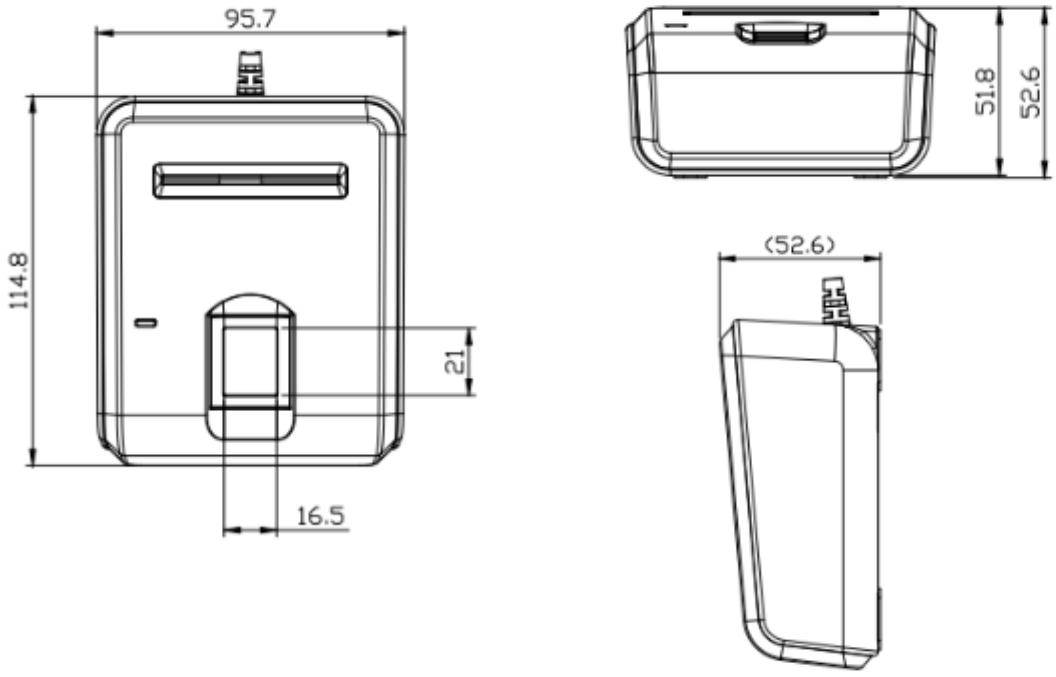
Exterior

2. Picture – Design Details

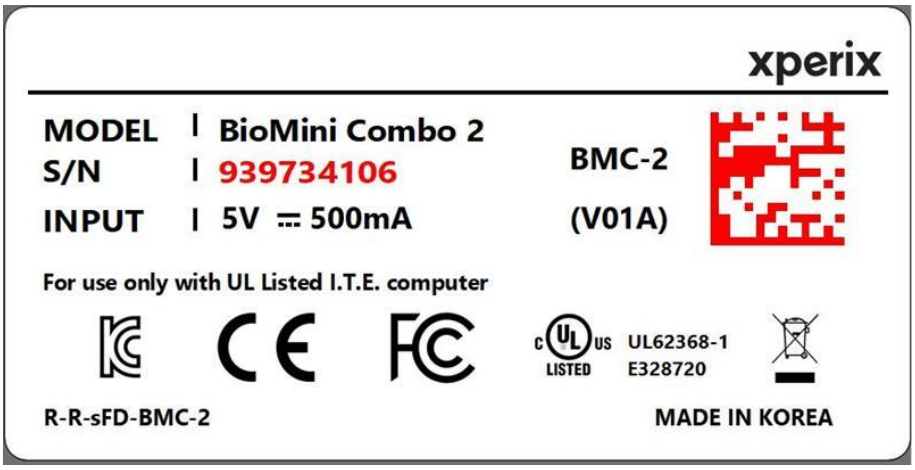


Name	Feature
Contact Card Slot	Reads contact card.
Fingerprint Scanner	Scans the single fingerprint.
LED status indicator	• Green (Solid): The device is ready. • Cyan (Solid): The contact card is inserted. • Alternating green and cyan (Blinks, 5 seconds): The contact card is removed or inserted incorrectly. • Green (Blinks, 10 seconds): The contactless card is recognized successfully.

3. Drawing



4. Label



- Includes interface, power specifications, certification markings, and device serial number

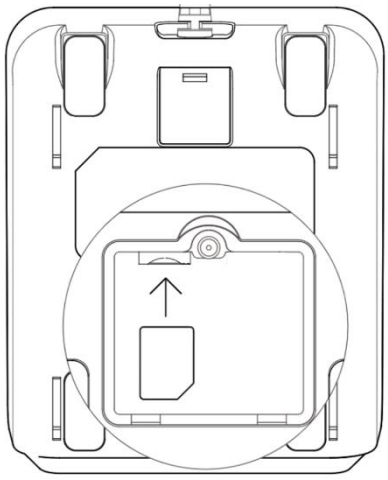
5. Installing SAM(Secure Access Module) card

CAUTION

- Before starting, turn off the device by disconnecting the link to the host.
- Do not use any tools when inserting or removing the SAM card.

1 Unscrew the bottom cover and open it.

2 Insert the SAM card into the second slot with the gold contacts facing down. Take care to ensure that the SAM card is inserted correctly.



3 Assemble the bottom cover.

Capture



Top Scanning



Side Scanning

- Top Scanning: If only the top of a finger is placed on the scanning area, only the top of the finger part will be scanned.
- Side Scanning: If only the side of a finger is placed on the scanning area, and if the center of the finger is not placed on the scanning area, only the side of the finger part will be scanned.



Distorted image

- Distorted Image: When a finger is placed on the scanning area with too much pressure, the image may become distorted as the important data in the fingerprint disappear.



Good Fingerprint Image

- To scan a fingerprint successfully, place the finger at the center of the scanning area with reasonable pressure.
- If a fingerprint image is blurred, remove pressure from the finger and scan the fingerprint again when a fingerprint image is good.