xperix

BM-Slim2S

Ultra-Slim FAP20 Authentication Scanner

User Manual



INTRODUCTION

1. BM-Slim2S

BM-Slim2S is a FBI PIV and Mobile ID FAP20 certified fingerprint module that provides a number of industry-leading features under its sleek design. Featuring range-leading powerful 1.0GHz CPU, BM-Slim2S provides high-speed extraction and matching of fingerprints within the scanner.

BM-Slim2S also supports true plug-n-play by featuring HID (human interface device) protocol. BM-Slim2S is a versatile identification solution for both public and civil ID applications.

2. Features



- True plug-n-play operation
  - HID (Human Interface Device) protocol



- Standalone operation
  - 1.0GHz MIPS-base Xburst Core CPU
  - On-device fingerprint extraction and matching
  - OS independent fingerprint scanner



- Enhanced Security
  - On-device template encryption
  - On-device template extraction



- World's slimmest FAP20 optical sensor



- FBI PIV/FIPS201 and FBI Mobile ID FAP20 certificates
- Image compression standard: WSQ



- Capturing high-quality fingerprint images even when the finger is dry and wet
- Operates under direct sunlight up to 100,000 LUX



- Live Finger Detection (LFD) Technology
  - Distinguishes fake fingerprints made from various materials including clay, rubber, silicon, glue, paper, film and more
- Automated power saving by smart sleep mode
- BM-Slim2S now consumes up to 95% less power than competitors



FEATURES AND SPECIFICATIONS

1. Specifications

1.1. Specifications

Sensor	Image Quality Standards	FBI PIV / FBI Mobile ID FAP20
	Live Finger Detection	O
	Sensor Type	Optical
	Resolution	500 ppi
	Gray Scale	256 levels
	Platen Size (W x L mm)	16.5 x 21.0
	Sensing Area (W x H mm)	15.24 x 20.32
	Image Size (W x H pixels)	300 x 400
HW	Interface	USB 2.0 High Speed
	Operating Temperature (℃)	-10 ~ 50℃
	Storage Temperature (℃)	-20 ~ 70℃
	Operating Humidity	10 ~ 90% RH
	Ingress Protection	IP65 (Sensor Surface)
	Dimensions (W x L x H mm)	59 x 32 x 13.5 mm
	Weight (g)	30g
SW	Operating System	OS/Platform Independent, Standalone Operation
	Image Format	RAW, BMP, WSQ, ISO19794-4
	Template Type	Xperix, ISO19794-2, ANSI-378
Certification	CE	O
	FCC	O
	KC	O
	CB	O
	IEC62471	O
	WEEE	O
	WHQL	O

1.2. Firmware

Firmware Version: 01.02.00

1.3. Electrical Features

Range of working Voltage		5V±0.5V
Power Consumption (mA)	Idle	109
	Sleep	46
	Capture Single	173
	Inrush (fingerprint put on)	191

2. Exterior

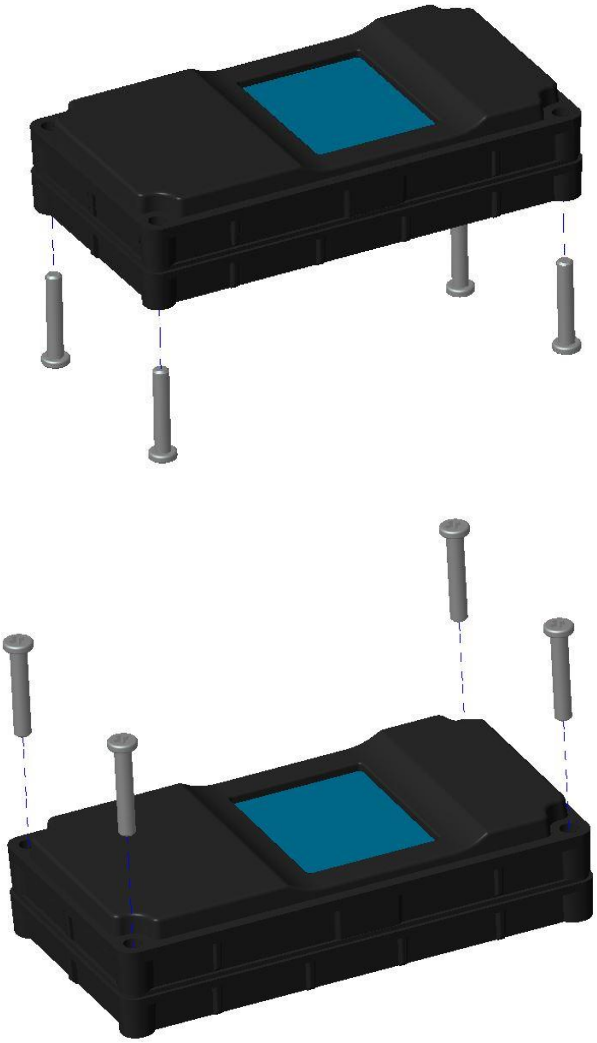
2.1. Fixing for mechanical installation

2.1.1. Fixing and Installation

[Screw fixing]

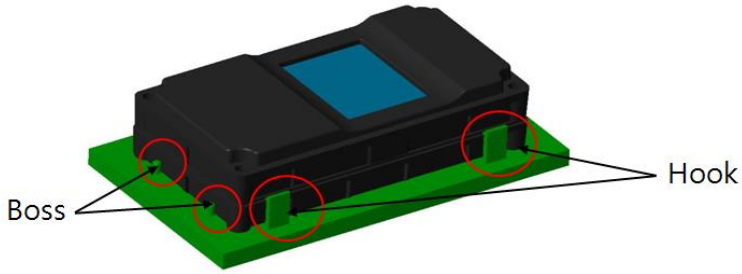
From either top or bottom side, BM-Slim2S can be mounted with using 4 screws.

(Diameter: 2.0 mm, Tightening torque: 2.0kgf.cm±0.1)



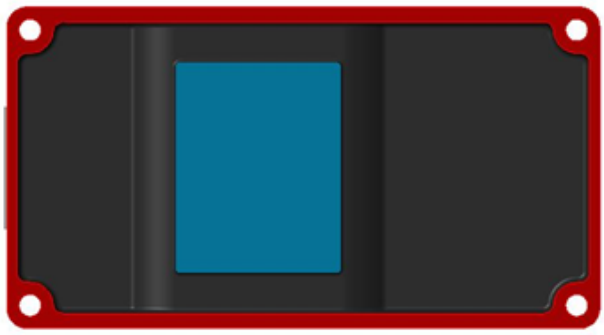
[Clip fixing]

BM-Slim2S can be fixed by 4hooks and 4bosses.



2.1.2. Sensor Positioning

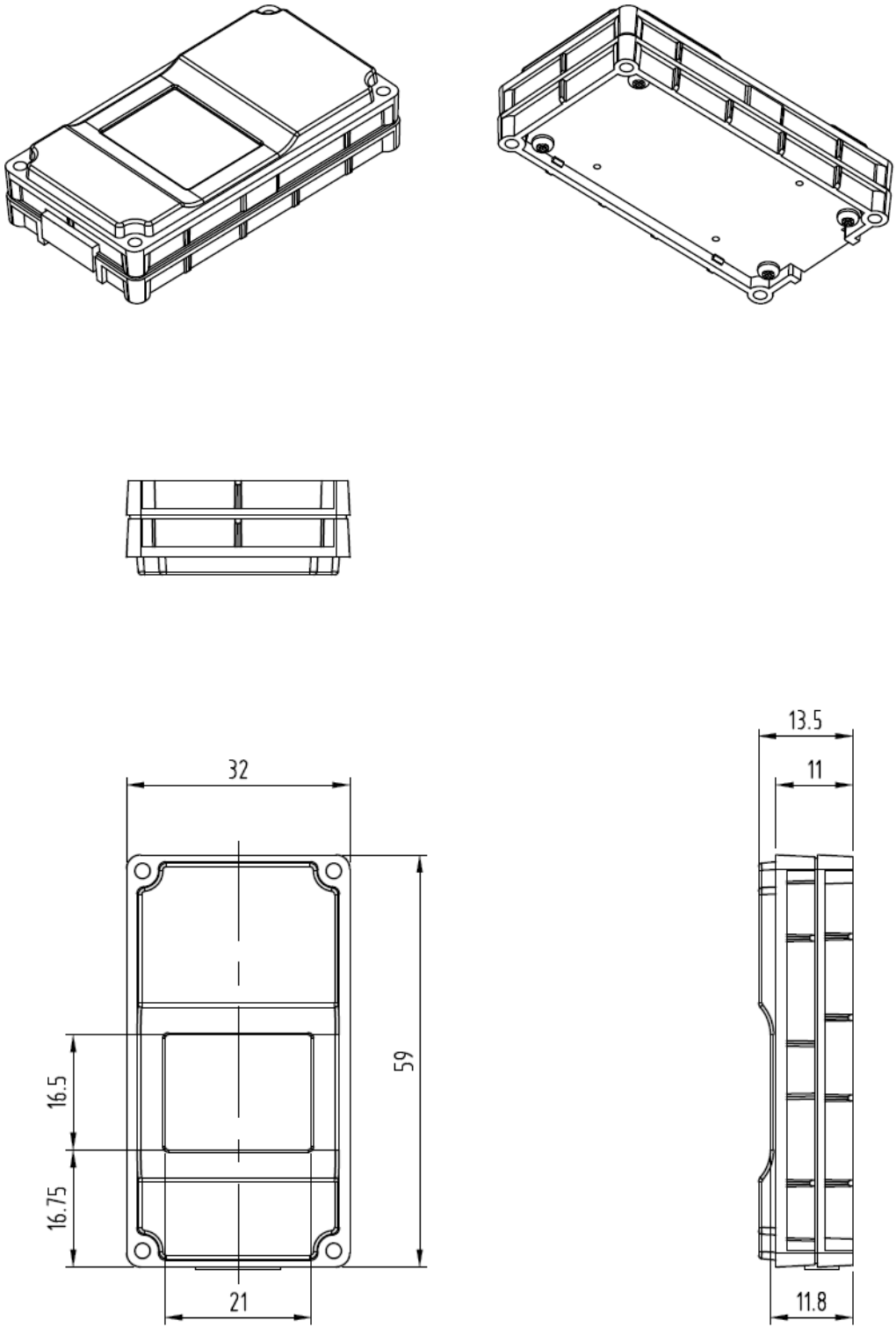
The default positioning of BM-Slim2S is as shown below. (0°)

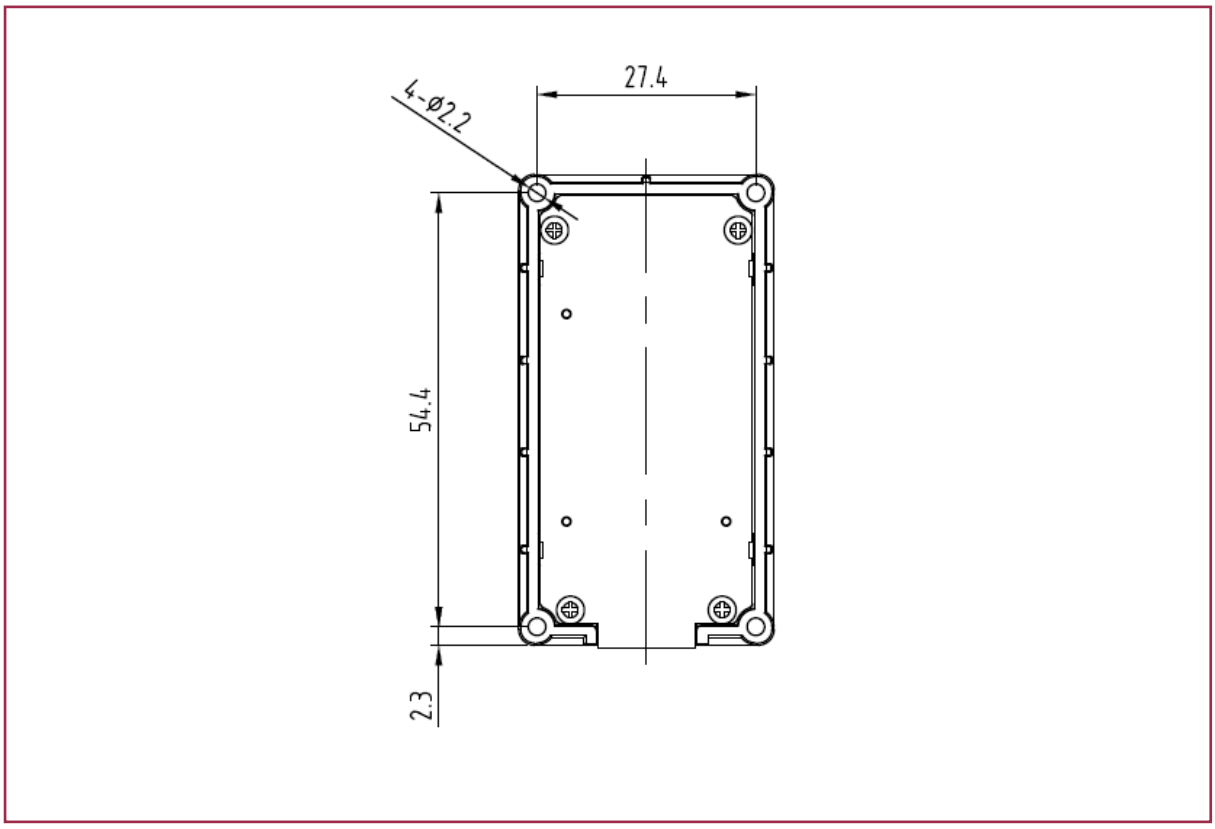


BM-Slim2S supports up to 360° rotation by using 'Rotation' and 'Rotate Image' settings. Auto-on functionality is not supported when BM-Slim2S is rotated by 90° and 270° which is positioned vertically.

For full IP65-rated water and dust proof integration of entire surface part of BM-Slim2S, you can attach a double-sided waterproof tape on an area highlighted in red above. (Recommended tape model - KSP WSR200BK 0.2T)

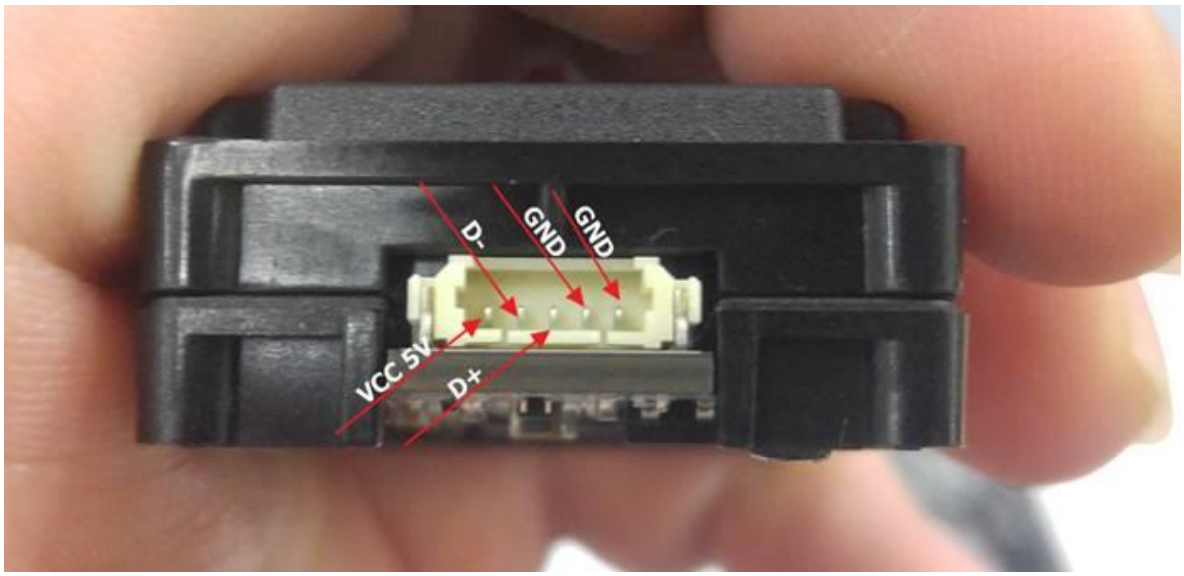
2.2. 3D Drawing



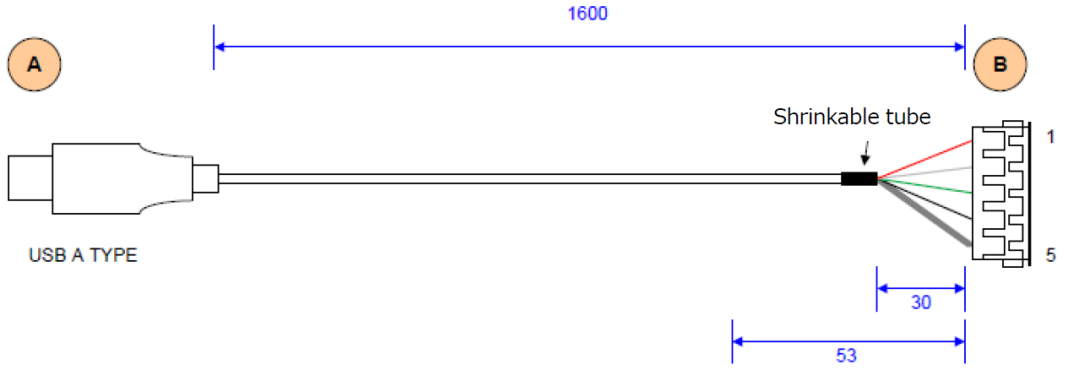


3. Interface

3.1. Picture



3.2. Drawing



FROM PIN DESCRIPTION	FROM CONN	FROM PIN	TO PIN	TO CONN	TO PIN DESCRIPTION	WIRE	LENGTH
VBUS	A	1	1	B	VBUS	28AWG/RED	1600
D-	A	2	2	B	D-	28AWG/WHITE	1600
D+	A	3	3	B	D+	28AWG/GREEN	1600
GND	A	4	4	B	GND	28AWG/BLACK	1600
SHIELD	A	-	5	B	SHIELD	GRAY shield	1600

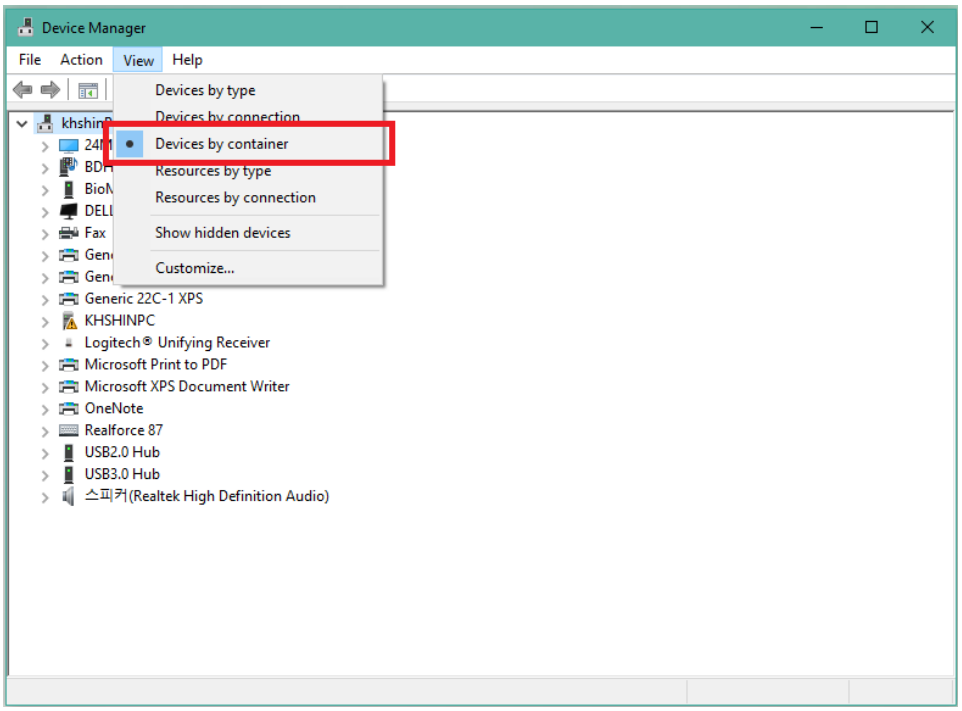
No	Part List	수량	Vendor	비고
1	12505HS-05	1	Yeonho	Housing
2	12505TS	5	Yeonho	Terminal, RoHS
3	E203693	-	DUSUNG	USB2.0 Cable,UL2725, RoHS
4	**Shrinkable tube**	1	Any	RoHS
5	USB A TYPE CONN	1	Any	RoHS
	- 이 하 여 백 -			

4. Check BM-Slim2S on Windows

4.1. Connect to Windows PC by USB

4.2. Check BM-Slim2S on the Device Manager

4.2.1. Change 'View' menu to 'Devices by container'



4.2.2. Can check BM-Slim2S like below as HID-compliant device

