

Optical Fingerprint Module SM-93M

Product Specification

Version 1.0.0

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Contents

1.	Product Overview	3
1.1	Brief Introduction	3
1.2	Application	3
2.	Product Specification	3
2.1	Technical Parameters	3
2.2	Mechanical Dimension	4
2.3	Product Photos	4
2.4	Output interface	5
	Document Revision History	7

1. Product Overview

1.1 Brief Introduction

MIAXIS® SM-93M is a FBI-PIV&FAP30 certified Fingerprint OEM Module with adopted optical sensing technology. Born for identity authentication application scenarios.

This device supports finger image capture, live finger detection, ISO/ANSI compliant template extraction and match functions. Compact design and durable glass platen area, multi-ple interfaces USB&UART, mainstream Windows&Android&Linux SDK available for easy integration into biometric identification system and national e-ID programs.

1.2 Application

Widely used for telecom, e-ID, payment, identity verification industries.

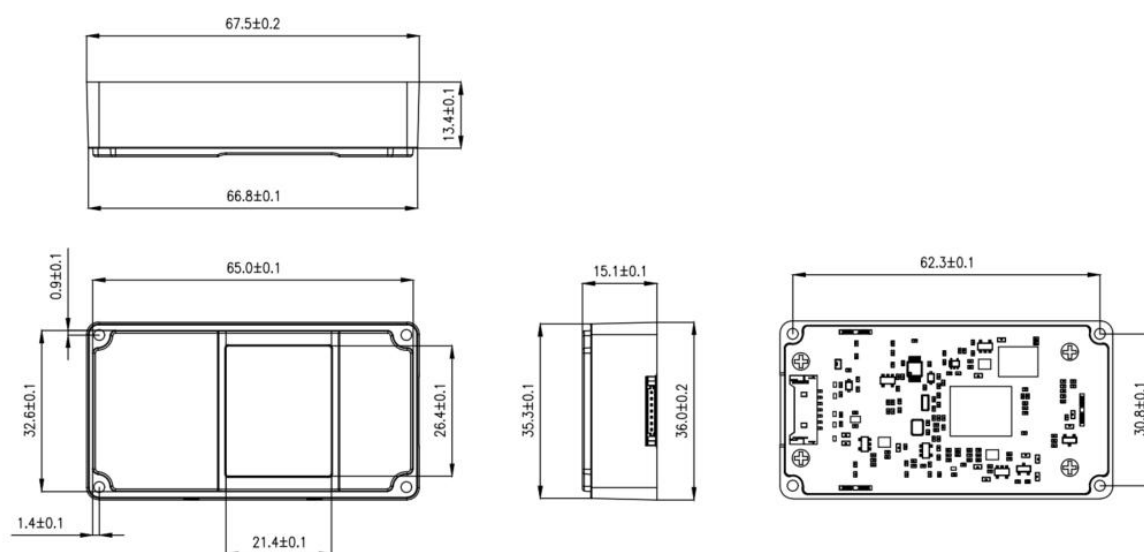
2. Product Specification

2.1 Technical Parameters

Specification	Detail
Product size(L x W x H mm)	67.5 x 36.0 x 15.1mm (L x W x H)
Sensor Type	Optical sensor
Image Spec	FBI PIV&FAP30
Image Resolution	500 dpi
Image Size(W x H pixel)	400 x 500 pixel
Grey Scale	8bit, 256 level
Image Format	WSQ, JPEG2000, RAW, BMP, ISO 19794-4, ANSI 381
Compression Ratio	Up to 15:1
Quality Score	NFIQ v1.0
Live Finger Detection	Yes
Enrollment Time	≤0.5s(collect one image and upload by USB)
Supply Voltage	DC5V±5%(USB powered)
Supply Current	≤200mA(USB powered) ≤50mA(USB powered at sleep mode)
Communication Interface	USB&UART

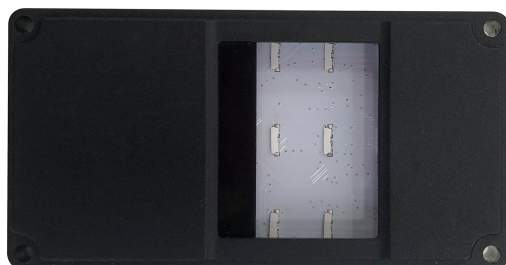
ESD Immunity	$\pm 8\text{kV}$ contact discharge, $\pm 15\text{kV}$ air discharge (Sensor Surface)
Operating Temperature	-10°C to $+50^{\circ}\text{C}$
Operating Humidity	20% RH ~ 90% RH
Ingress Protection	IP65 (Sensor Surface)
Operating System Environment	Linux Kernel 4.15 or higher Windows 7 or higher Android 4.1 or higher

2.2 Mechanical Dimension

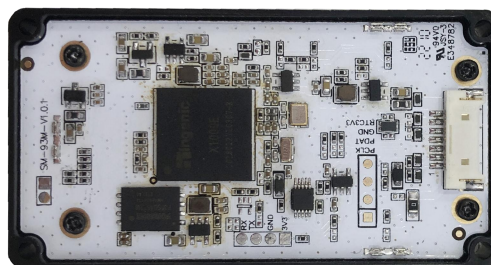


Mechanical Dimension (Unit: mm)

2.3 Product Photos



Front view

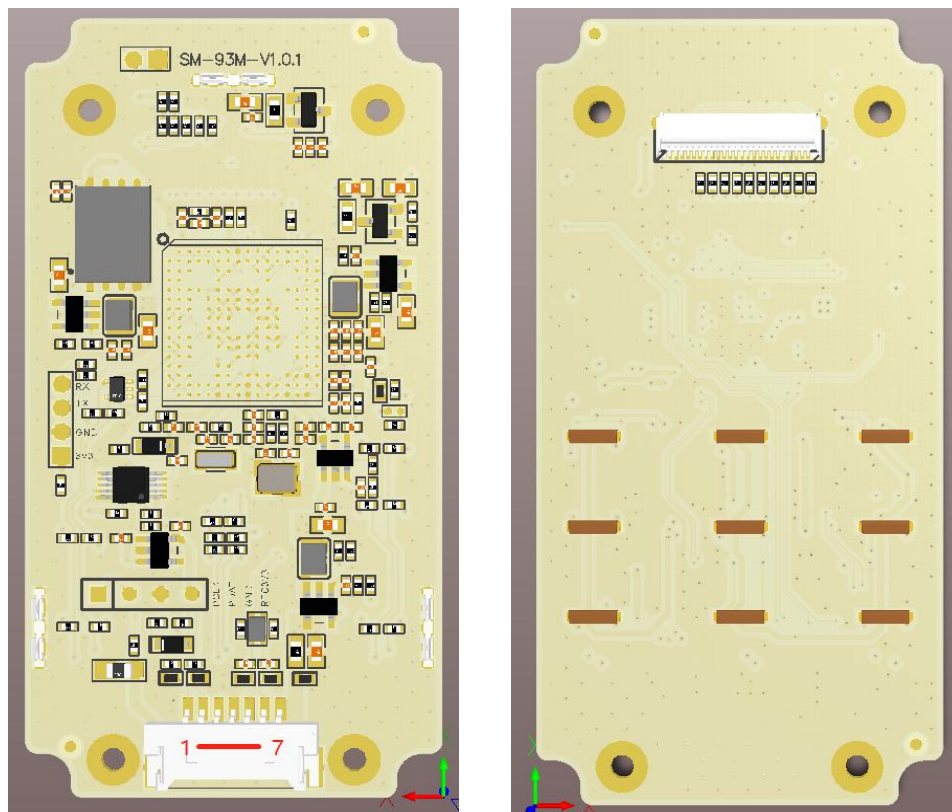


Back view

2.4 Output interface

interface definition

PCB 3D:



Front view

USB-UART Interface

7pin (7*1.25mm) Horizontal Socket

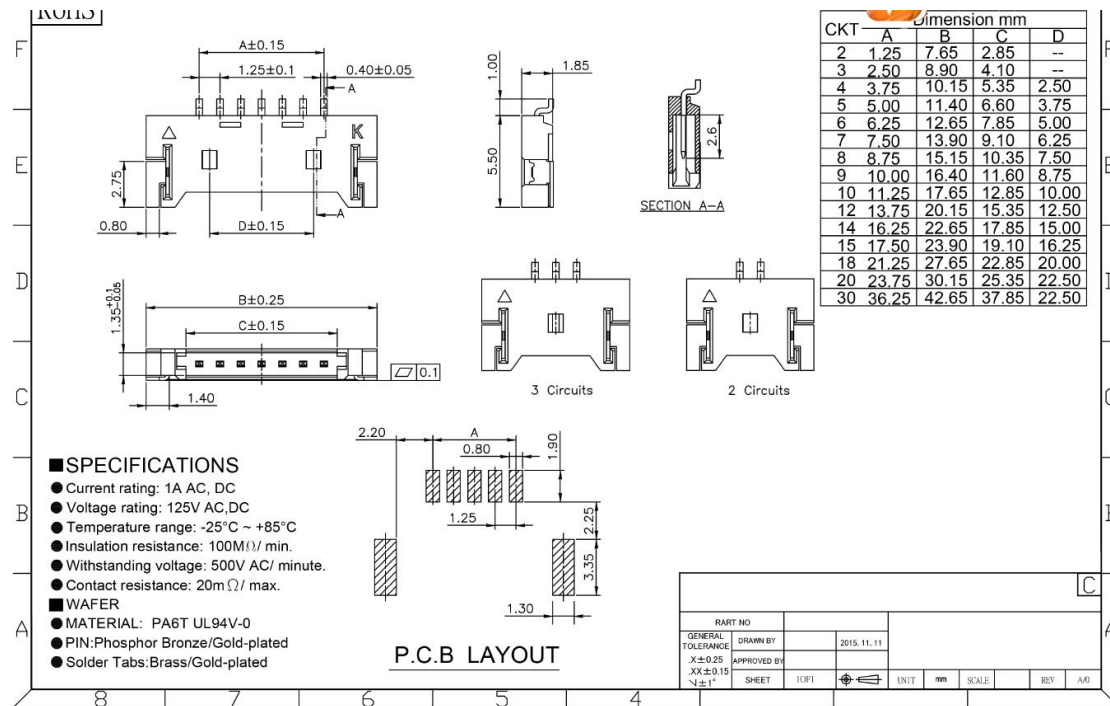


Pin Definition :

Pin NO.	Pin Name	Pin Type	Function
1	RXD	I	TTL Serial data input, 3.3V level
2	TXD	O	TTL Serial data output, 3.3V level
3	EGND	P	Module shield ground pin
4	GND	P	Module ground pin
5	USB_D+	I/O	USB different signal D+
6	USB_D-	I/O	USB different signal D-
7	VIN	P	Module power pin, DC 5V

Note: Pin Type I=Digital Input, O=Digital Output; P=Power Pin

USB-UART Socket Dimension



Document Revision History

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Version	Date	Comment
1.0.0	4/2022	First issue