



FIMODULE - OPTICAL SENSOR SERIES

Fingerprint Identification Module

FIMODULE SERIES WITH OPTICAL SENSOR



DESCRIPTION

IZZIXFingerENGINE in FIModule follows the commonly accepted fingerprint identification scheme, which uses a set of specific fingerprint feature points (minutiae). However, it contains many powerful algorithmic solutions, which enhance the system performance and reliability. Some of them are listed below:

- Quality Check of Fingerprint Image
- Efficient Feature Extraction
- Fully Tolerant to Fingerprint Distortion and Rotation (360°)
- Fingerprint Enroll Mode with Feature Collection
- Classification Feature by Global Feature Vector
- Suitable Algorithm to 1:1 and 1:N Mode

More than Perfect!

And, FIModule acts as a biometric subsystem with template & record data storage. FIModule can be used to any fingerprint application and be controlled by a host sending/receiving command via the standard serial interface. FIModule makes fingerprint templates and stores directly in flash memory. Templates can also be exported for external memory and be imported by external fingerprint device and IZZIX FingerENGINE algorithm (ex, IZZIX FD1000).



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Fingerprint Identification Module

KEY FEATURES

- Embedded Stand-alone Fingerprint Identification Module
- Verification (One-To-One) and Identification (One-To-Many)
- Onboard Template & Record Data Storage
- Simple Serial RS-232C/CMOS Interface
- Downloading/Uploading Template from/to Host
- Easy to integrate giving minimal Time-To-Market

APPLICATION

- Fingerprint based access control systems & door-lock
- Fingerprint personal identification system
- Time attendance system using fingerprint
- Fingerprint based weapon control system
- Bank employee and customer identification system using fingerprint (Possibly combined with IC card)
- Fingerprint based machine control
- Fingerprint based car locks

RESPONSE TIME (SEC)

		FC2062A-FSxx	FC2055A1-FSxx	FC2062BL-FSxx
1:1 Mode (Verification)	Enrolled Fingerprints			
		0.4	0.8	0.3
1:N Mode (Identification)	500	< 0.6	< 1.1	< 0.75
	1,000	< 0.8	< 1.6	< 0.9
	2,000	< 0.97	< 2.4	< 1
	3,000	< 1.22		< 1.2
	5,000			< 1.3
	10,000			< 1.3 or < 2.6+MLTime

MLTime ; Memory Loading Time of Secondary DB(Size = 5,000)

QUICK SPECIFICATION

FAR(False Acceptance Rate)	< 0.0001 %		
FRR(False Rejection Rate)	< 0.1 %		
Matching Mode	Identification(1:N Mode), Verification(1:1 Mode)		
Times of Enrollment	Feature Collection Mode, FCMode	3 times ⇒ 1 feature data/1 user	
	Feature Exclusive Mode, FEMode	n times(n=5) ⇒ n feature data/1 user	
Number of Fingerprint & Record (FCMode)		Fingerprint	Record
	FC2062A-FSxx	3,000	8,000
	FC2055A1-FSxx	2,000	40,000
	FC2062BL-FSxx	5,000 (Basic) 10,000 (Extended)	40,000
User Data Size	512 Bytes (= 480 Bytes Template Data + 32 Bytes Header Data)		
Record Data Size	16 Bytes		

Processor Engine	FB2062A	TMS320C6211 (150MHz, 1200MIPS)		
	FB2055A1	TMS320VC5502 (200MHz, 400MIPS)		
	FB2062BL	TMS320C6205 (200MHz, 1600MIPS)		
Dimensions & Weight of Processor Board	FB2062A	65 × 37 × 8 mm		< 15 gr
	FB2055A1	51 × 30 × 8.5 mm		< 11 gr
	FB2062BL	65 × 37 × 7 mm		< 13 gr
Optical Fingerprint Sensor		FS10	FS11, FS11P	FS20
	Window Size(mm)	18.8 × 16		
	Array Size(Pixels)	400 × 300 → 320 × 280 (Image Processing)		
	Resolution(dpi)	500		
	Dimensions(mm)	20.5 × 25 × 55		20.5 × 25 × 42
	Weight(grams)	< 40		< 32
Operating Voltage	(Basic) 5V DC			

This specification is subject to change without prior notice.

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DIGENT - Advanced Fingerprint Security Solution

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Refer to Manual for details and usage specification