

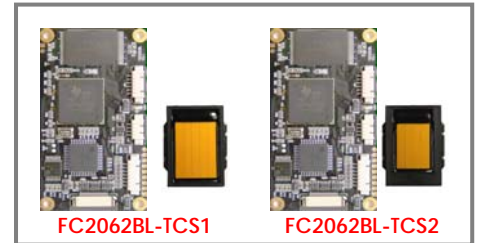
FC2062BL-TCS1/TCS2

FIModule Product Sheet



KEY FEATURES

- Embedded Stand-alone Fingerprint Identification Module (FIModule)
- 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 machine control
- Fingerprint based weapon control system
- Fingerprint based car locks
- Bank employee and customer identification system using fingerprint (Possibly combined with IC card)

DESCRIPTION

IZZIX FingerENGINE 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

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.

IZZIX FingerENGINE algorithm supports the **calibration routine(supplied by UPEK)** for UPEK sensor(TCS1 and TCS2).

- detects and repairs bad columns and bad rows
- calculates the gain offset settings table
- Time needed ; < 5 seconds

QUICK SPECIFICATION

Response Time(sec)	1:1 Mode	Enrolled Fingerprints		Matching OK	
		1:N Mode	1,000	2,000	< 0.94
		3,000	5,000	< 1.24	< 1.34
		10,000		< 1.34 or < 2.7+MLTime	
FAR(False Acceptance Rate)	< 0.0001 %				
FRR(False Rejection Rate)	< 0.1 %				
Matching Mode	Verification(1:1 Mode), Identification(1:N Mode)				
Times of Enrollment (E _T)	Feature Collection Mode, FCMode	3 times ⇒ 1 feature data/1 user			
	Feature Exclusive Mode, FEMode	n times(normally n = 5) ⇒ n feature data/1 user			
Memory Size	8Mbytes FlashROM				
Number of Fingerprint & Record	FCMode	5,000 / 10,000		40,000	
	FEMode (if E _T = 5)	1,000 / 2,000			
User Data Size	512 Bytes (= 480 Bytes Template Data + 32 Bytes Header Data)				
Record Data Size	16 Bytes				
Start-up Time	Reset Time	800 msec		600 msec	

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

Digital Signal Processor	TI TMS320C6205					
Fingerprint Board	FB2062BL-TCH1					
Fingerprint Sensor	TCS1/TCS2, TouchChip Area Fingerprint Sensor (UPEK)					
Active Area Size	TCS1 = 12.8 × 18 mm		TCS2 = 10.4 × 14.4 mm			
Array Size(Pixels) & Resolution	TCS1 = 256 × 360 & 508 DPI		TCS2 = 208 × 288 & 508 DPI			
Dimensions & Weight	FB2062BL-TCH1		65 × 37 × 7 mm		< 13 gr	
	TCS1 / TCS2		27 × 20.4 × 3.5 mm		< 2 gr	
Operating Voltage	5VDC					
Power Consumption (5VDC)	Standby	215mA	Sensing	220mA	PowerDisable	<7uA
	PowerDown1	160mA	PowerDown2	60mA	PowerDown3	58mA
	Calibration	235mA				
Temperature/Humidity	0°C ~ 70°C / 15% ~ 80 %					
External Interface	- 7Pin Connector : RS232C Level UART - 9Pin Through Hole Connector : RS232C or CMOS Level UART					

This specification is subject to change without prior notice.

October 23, 2008

DIGENT - Advanced Fingerprint Security Solution

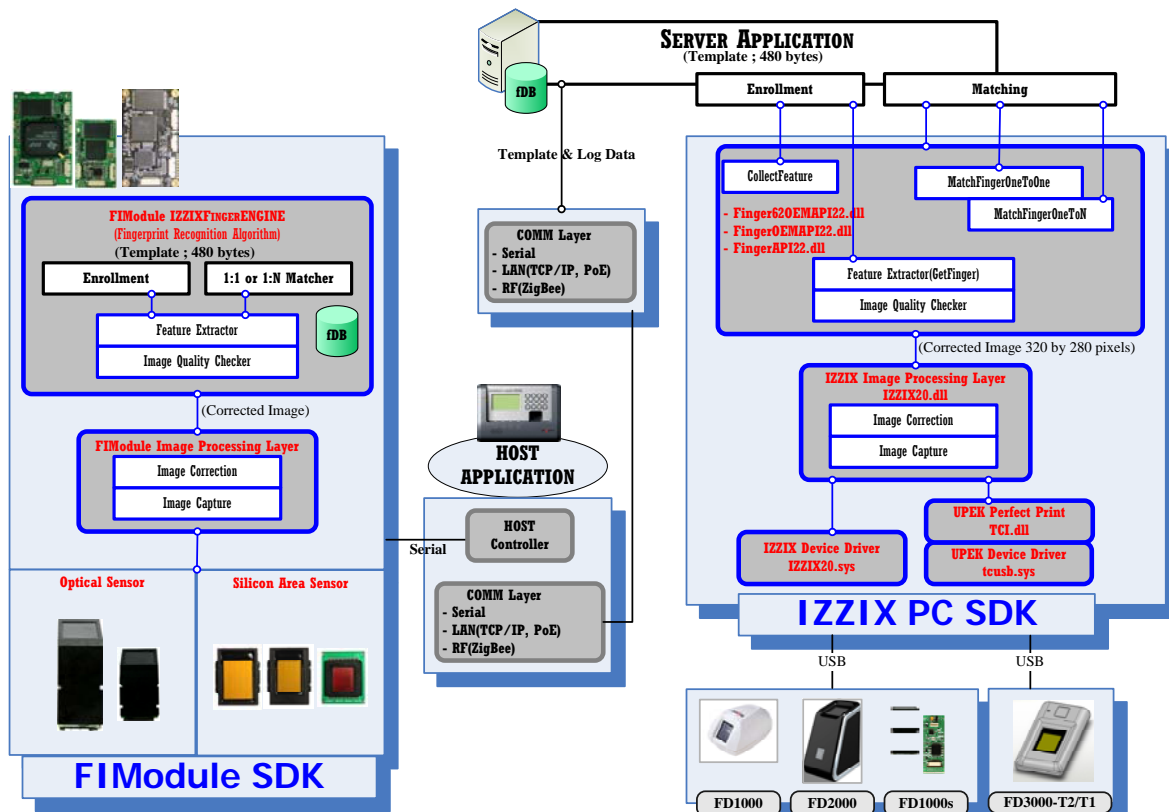
Rev. 2.0

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Refer to Manual for details and usage specification.

FC2062BL-TCS1/TCS2

FIModule Product Sheet



Ordering Information

•FC2062BL Module Series

FC2062BL – x1 – x2

FC20	Algorithm Version V20 series	
62BL	DSP TMS320C6205	
① x1	TouchChip Area Fingerprint Sensor	TCS1/TCS2 by UPEK
② x2	Total Length(TL) and Insulation Length(IL) of FFC Cable : TL(IL) L160 / L120 / L80 -> 160(150) / 120(110) / 80(70)mm	

FIModule	Fingerprint Board
FC2062BL – TCS1 – L160(L120, L80)	FB2062BL – TCH1
FC2062BL – TCS2 – L160(L120, L80)	

•FC2062BL SDK

FC20 SDK-E2 (62BL-TCS1, 62BL-TCS2)

