Fingerprint Recognition Module | Optical Fingerprint Sensor Module with Built-in Red Inductive Backlight for Fingerprint Lock & R&D

1. Product Description

This module is easy to operate: all single-chip microcontrollers and embedded boards equipped with serial ports can control this unit, including MSP430, 51, AVR, PIC, STM32, ARM, FPGA and Arduino controllers. It is driven by serial communication and can also be controlled via PC serial port.

The module consists of optical fingerprint sensor, high-speed DSP processor, high-performance fingerprint matching algorithm and large-capacity FLASH chip. It features stable performance and complete functions, supporting fingerprint collection, enrollment, 1:1 matching and 1:N fingerprint search.

2. Application Fields

Suitable for full-series fingerprint identification systems from low-end to high-end equipment:

- Security Industry: Fingerprint door lock, safe, gun cabinet, financial security equipment
- Identity Verification Industry: Access control system, industrial controller, POS machine, driving license verification, attendance terminal
- Management Industry: Private club access, management software, authorization management
- Finance Industry: Medical insurance withdrawal, pension collection, fingerprint payment settlement

3. Technical Specifications

表格

Specification Item	Parameter
Supply Voltage	DC 3.8~7.0V
Backlight Color	Red
Backlight Mode	Constant Bright / Flashing
Working Current	Operating: ＜60mA; Peak: ＜85mA
Fingerprint Acquisition Time	＜0.5s
Sensor Window Size	15×17mm
Matching Mode	1:1 Verification; 1:N Search
Feature File Size	384 Bytes
Template File Size	786 Bytes
Storage Capacity	240 fingerprint templates
Security Level	Level 3 (Total 5 levels: Level1~Level5, from low to high security)
FAR (False Acceptance Rate)	＜0.001% @ Security Level 3
FRR (False Rejection Rate)	＜1.0% @ Security Level 3
Average Search Time (1:240)	＜220ms
Upper Computer Interface	UART (TTL logic level)
UART Baud Rate	9600×N bps, N=1~12; Default N=6 (57600bps)
Operating Environment	Temperature: -30℃ ~ +70℃; Humidity:40%RH~85%RH (No

Specification Item	Parameter
	condensation)
Storage Environment	Temperature: -40℃ ~ +85℃; Humidity:＜85%RH (No condensation)
Overall Dimension(L×W×H)	44×20×17mm



