

Unit Fingerprint2

SKU:U203

UNIT
FINGERPRINT2

RGB LED RING

POWER LED

PORT C. UART
GND 5V RXD TXD

M5STACK

A-K323CP

508dpi
STM32G031
80x208 P
CAPACITY: 100 FINGERPRINTS

UART
INTERFACE





Description

The Unit Fingerprint2 is a high-performance fingerprint recognition sensor unit, internally integrating an STM32 core controller and an A-K323CP all-in-one fingerprint recognition module. It uses a semiconductor capacitive sensor with functions such as fingerprint acquisition, feature extraction, registration, comparison, storage, and retrieval. The module has a built-in fingerprint recognition algorithm capable of adapting to both dry and wet fingers. It offers flexible fingerprint data management, high data security, and fast search and positioning functions. This unit adopts a UART communication interface for easy integration with various main control platforms and includes a Seven colors RGB LED ring and power indicator for interactive status prompts. It is ideal for rapid development and integration in scenarios such as smart door locks, access control attendance, identity authentication, financial payment, and small security systems.

Features

- Integrated STM32 core controller
- High-resolution capacitive fingerprint sensor with high-accuracy recognition capability
- Fingerprint capacity of 100 entries
- Adaptive processing for both dry and wet fingers
- Fingerprint management, precise matching, and search functions
- Built-in RGB LED ring supporting seven colors for (working status) indication
- Development Platform
 - UiFlow2
 - Arduino IDE
 - PlatformIO

Includes

- 1 x Unit Fingerprint2
- 1 x HY2.0-4P Grove Cable (20cm)

Applications

- Smart door locks
- Access control attendance
- Identity authentication

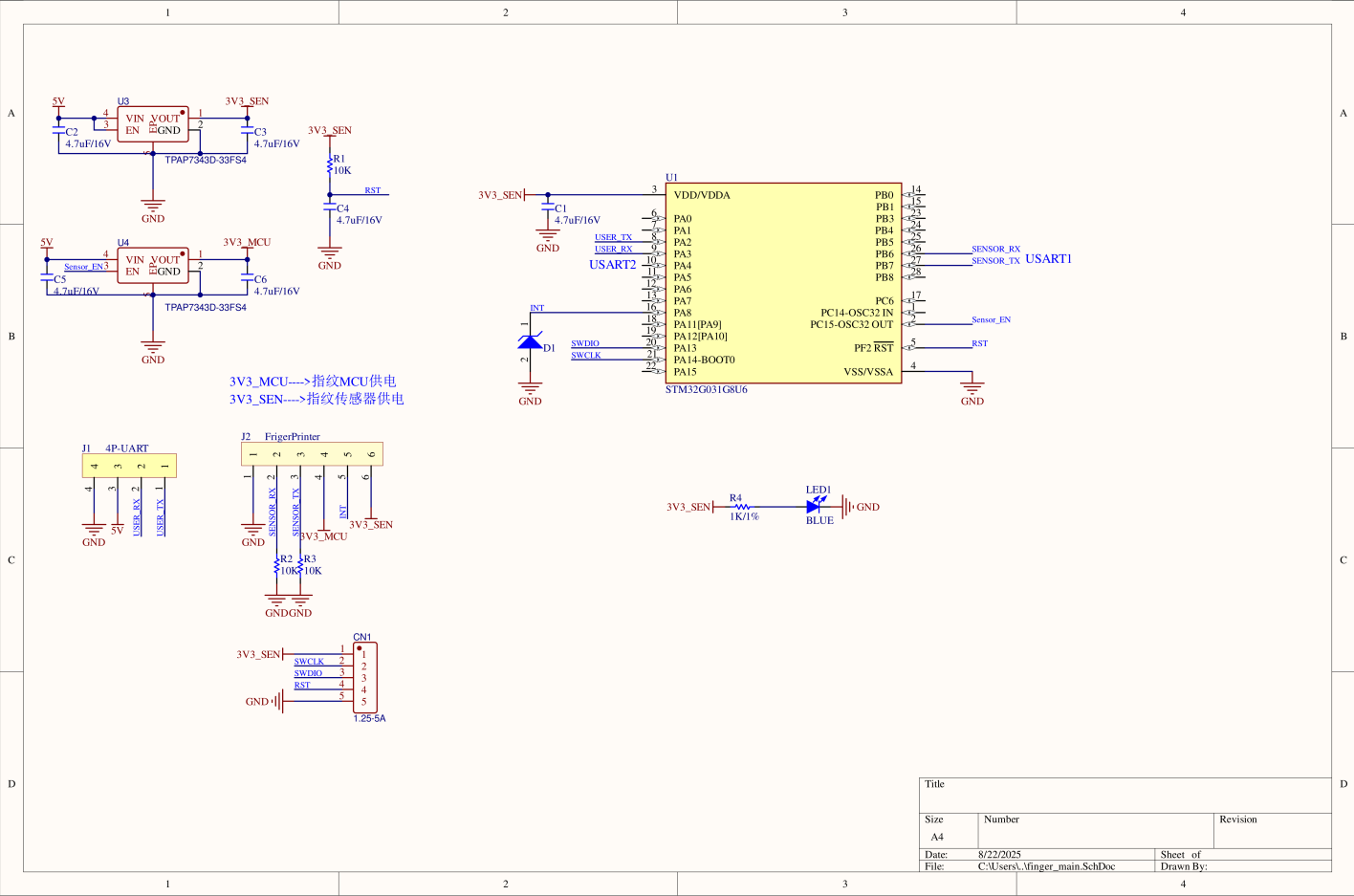
- Financial payment
- Small security systems

Specifications

Specification	Parameter
MCU	STM32G031G8U6
Fingerprint Module	A-K323CP
Fingerprint Resolution	508 dpi
Image Pixel	80 * 208
Image Acquisition Size	8230 Bytes (80 * 208 / 2 = 8320, 4 bits per pixel)
Fingerprint Capacity	100 entries
Fingerprint Data Size	7262 Bytes / entry
Communication Method	UART 115200bps @ 8N1
Power Consumption	Working mode: Breathing light ON 40mA; Breathing light OFF 37.25mA Sleep mode: 14.11mA
Product Size	40.0 x 24.0 x 8.0mm
Product Weight	6.1g
Package Size	138.0 x 93.0 x 11.0mm
Gross Weight	11.6g

Schematics

- [Unit Fingerprint2 Schematics PDF](#)



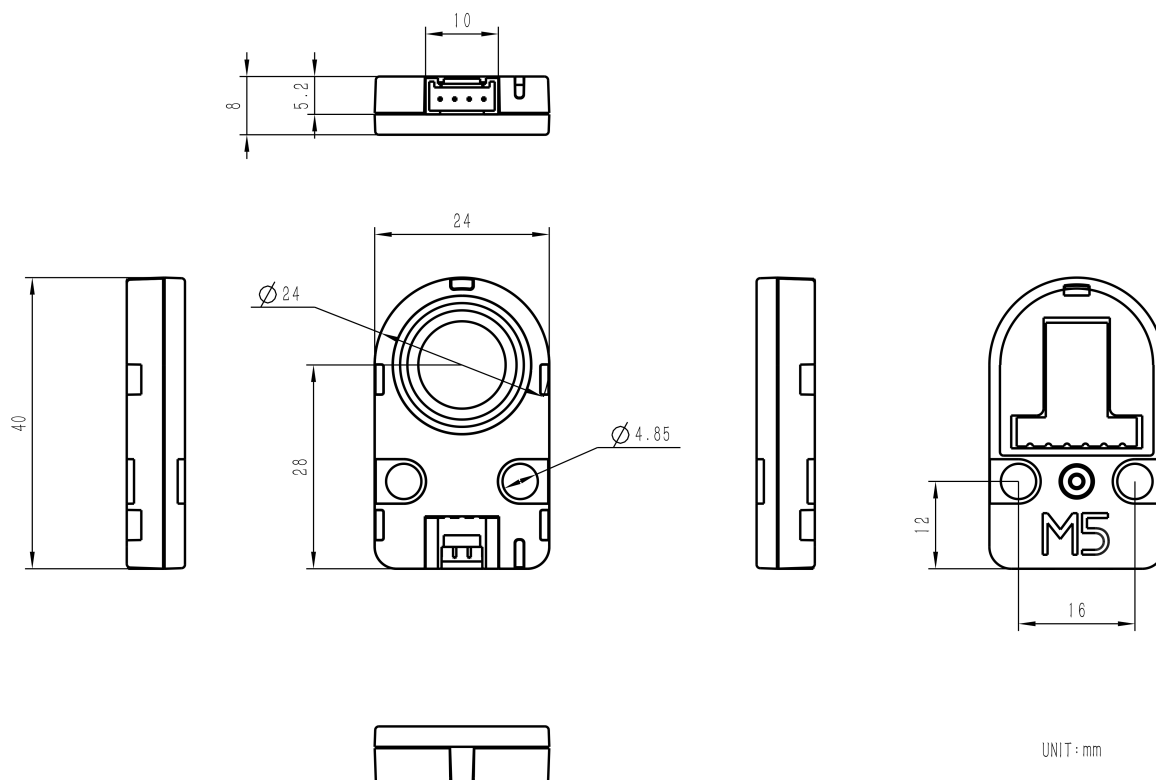
PinMap

Unit Fingerprint2

HY2.0-4P	Black	Red	Yellow	White
PORT.C	GND	5V	UART_RX	UART_TX

Model Size

- Unit Fingerprint2 Model Size PDF



Softwares

Arduino

- [Unit Fingerprint2 Arduino Library](#)
- [Unit Fingerprint2 Arduino Quick Start](#)

Protocol

- [Unit Fingerprint2 UART Protocol](#)

Video

- Unit Fingerprint2 product introduction and function demonstration

[en-U203-Unit-Fingerprint2-video.mp4](#)