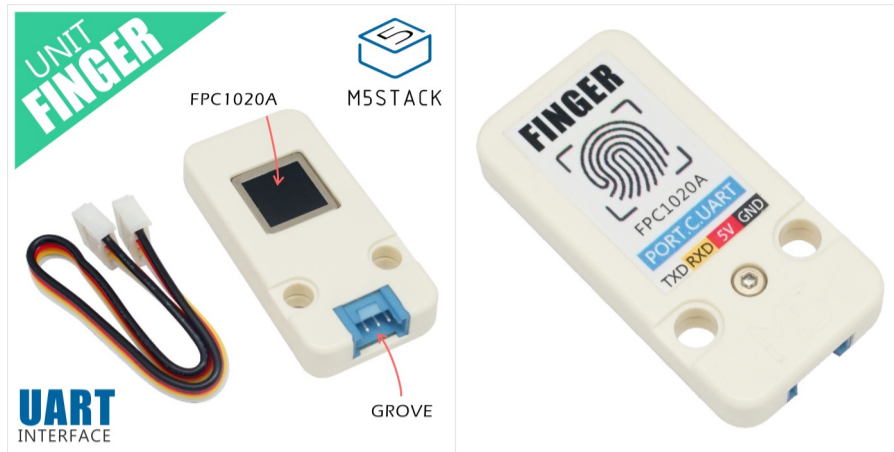


FINGER



Description

FINGER Unit is a fingerprint sensor with FPC1020A inside. This all-in-one fingerprint sensor makes fingerprint adding, verification, managing super simple.

Uart protocol, Compact size and ultra-low power consumption makes it very attractive to use around M5Stack series product. it performs fast fingerprint matching with highest security level and optimal user convenience. You can program to set the fingerprint recognition comparison level and different security level . if you ever consider secure your project with biometrics, don't forget to include this M5unit **FINGER**.

This unit communicate with M5Core by UART protocol connected via PORTC

UART settings:

- Baudrate(**default: 19200bps**)
- Start bits(1 bit)
- Stop bits(1 bit)
- Parity(no)

Product Features

- Fingerprint: 150
- Capacitive area array semiconductor fingerprint sensor
- The sensor has a pixel quality of 256 gray levels per pixel
- 1:N recognition and 1:1 verification
- Support finger 360 Rotate recognition
- Security level that can be adjusted appropriately 0-9, default level 5
- Output format: User name、 finger image、 feature value
- Characteristic value size: 193 Bytes
- Communication Interface: UART
- Supported Baudrate: 9600bps-115200bps (Default:19200bps)
- Operating temperature: -10°C - 60°C
- Operating humidity: 20% - 80%

Include

- 1x FINGER Unit
- 1x Grove Cable

Weight and Size

- Package size:67mm x 53mm x 12mm
- Package weight:20g

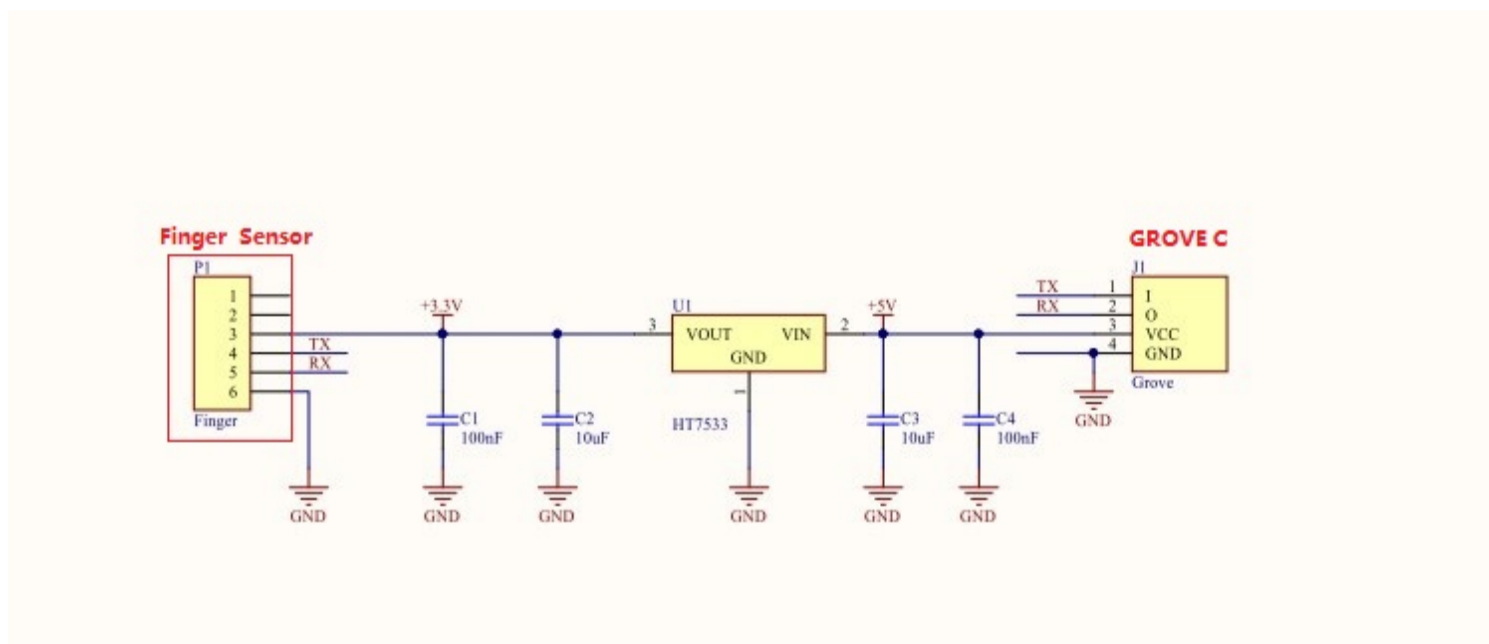
Applications

- Fingerprint Attendance Machine
- Fingerprint Locker

Document

- Protocol [FINGER series communication protocol](#)
- Datasheet [FPC1020A](#)

Schematic



PinMap

M5Core(GROVE C)	U2RXD	U2TXD	5V	GND
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FINGER Unit	TXD	RXD	5V	GND
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EasyLoader



1. Easyloader is a simple and fast program burner. Every product-related case program. It can be burned to the master through simple steps, and a series of function verification can be performed. .
2. After downloading the software, double-click to run the application, connect the M5 device to the computer through the data cable, select the port parameters, click "**Burn**" to start burning. **(For M5StickC burning, please Set the baud rate to 750000 or 115200)**
3. Currently EasyLoader is only suitable for Windows operating system, compatible with M5 system adopts ESP32 as the control core host. Before installing for M5Core, you need to install CP210X driver (you do not need to install with M5StickC as controller)

Example

1. Arduino IDE

The code below is incomplete(just for usage).

```

    Connect to GRVOE C on M5Core
*/
#include <M5Stack.h>
#include "finger.h"

uint8_t userNum; //User number
uint8_t res1;

// result for "res1"
#define ACK_SUCCESS    0x00
#define ACK_FAIL      0x01
#define ACK_FULL      0x04
#define ACK_NOUSER    0x05
#define ACK_USER_EXIST 0x07
#define ACK_TIMEOUT   0x08

Serial2.begin(19200, SERIAL_8N1, 16, 17);

// add a new user
res1 = fpm_addUser(userNum,1); //get function result

// compare your finger
res1 = fpm_compareFinger();

// delete all user
res1 = fpm_deleteAllUser();

```

2. UIFlow

If you want the complete code, please click [here](#).

