SEN0188 Fingerprint

(https://www.dfrobot.com/product-196.html)

Introduction

This is an Arduino compatible fingerprint module. With the high speed DSP processor, it could also work with other serial device, like MSP430, 51, AVR, PIC, STM32, ARM and FPGA device. This fingerprint module could work alone without any principal computer or any PC software. It could store 1000 fingerprint. Support fingerprint entry, intelligent image processing, fingerprint comparison and fingerprint search mode. It also has a high sensitivity to both wet and dry fingerprint recognition. This module could be widely used in security field, such as license management .etc. It can also be used to replace the IC card, password, hardware switch in your application.

Sorry for the inconvenience first, we found this wiki library should be a fork of Adafruit fingerprint's one, the download link will be removed until we fix this wiki

Specification

- Power supply: DC 3.8V-7.0V
- Operating current: 65mA (Typical)
- Interface: UART (TTL logical level)
- Baud rate: (9600*N)bps, N=1~12(default N=6, 57600bps)
- Image acquisition time: <1S
- Storage capacity: 1000
- FAR: <0.001%
- FRR: <1.0%
- Average searching time: <1s (1:500, average)
- Matching Mode: comparison mode (1:1) and search mode (1:N)
- Character file: 256 bytes
- Template file: 512 bytes
- Security level: 5(1,2,3,4,5(highest))
- Working environment:
    - Temp: -20°C - +60°
    - RH: 40%-85%
- Storage environment:
    - Temp: -40°C - +85°C
    - RH: <85%
- Touch area dimension: 14.5*19.4 mm
- Outline dimension: 54*20*20.5 mm

Board Overview
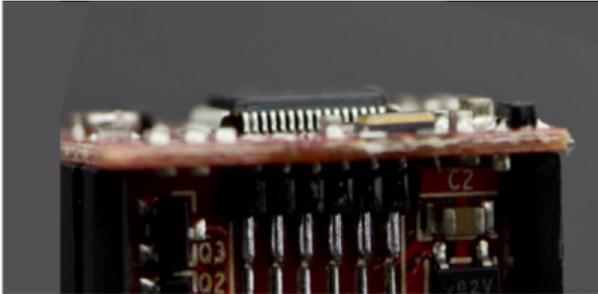
| Label	Name	Description
1	GND	Signal ground.(cable color: black)
2	RD	Data input. TTL logical level (cable color: white)
3	TD	Data output. TTL logical level (cable color: green)
4	VIN	Power input (cable color: red)
5	SOUT	Induction signal output (cable color:yellow)
6	VTOUCH	Touch induction power input (cable color: blue)

Tutorial

This tutorial will teach you how to use the fingerprint module to input and read the fingerprint.

Requirements

- **Hardware**
  - UNO x1
  - Fingerprint Sensor x1
  - Fingerprint Sensor Cable x1
- **Software**
  - Arduino IDE V1.6.5 Click to Download Arduino IDE (https://www.arduino.cc/en/Main/Software)

Connection Diagram
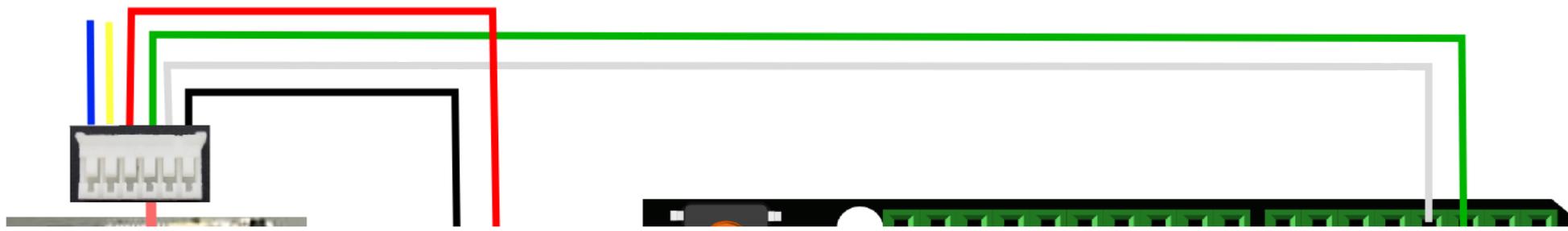
Fingerprint Pin	UNO Pin
VIN	5V

TD	2 (Software Serial RX)
RD	3 (Software Serial TX)
GND	GND

How to use

Input Fingerprint Data

Codes download

- Download and install the Fingerprint Library:

Click to download library files (https://github.com/adafruit/Adafruit-Fingerprint-Sensor-Library) Arduino Library Installation Tutorial (https://www.arduino.cc/en/Guide/Libraries#.UxU8mdzF9H0)

- Open Fingerprint Library sample code -> fingerprint -> examples -> enroll.ino.
- Connect UNO and fingerprint module according to the connection diagram.
- If you want to clear all previous saved fingerprint template, please change the number which arrows point 0 to 1, if you don't want to clear all fingerprint data. just keep it "0" in the code.

- Select the Board and Port
- Upload

- Open Serial monitor

Serial Pont

- Set Serial baud rate 9600
- No line ending
- Check Autoscroll

After you finish seting its parameter and make sure the connection is right, you will get this display in the serial monitor：

Set mode

- Set the NL mode to the NL+CR

Enter your fingerprint ID

- Now please enter your fingerprint ID in the serial monitor and then click the "Send" button.

Put your finger on the fingerprint module

- Don't move finger until you get "Remove finger".

Move your finger

- Don't move finger until you see "Remove finger"

Confirm your fingerprint again

- It will tell you to enter the fingerprint again, put the same finger on the module again.
- Don't move finger until you see "Remove finger"

Store successfully and you can input to the next finger again

- Stored successfully
- Keep going to input fingerprint if you want

Read fingerprints

Code downloads

- Similar to the fingerprint input, download the Exemples -> fingerprint.ino to UNO:
- Set Board and Port;
- Open Serial Monitor;

Read fingerprints

- If the fingerprint module is connect successful, it will always prompt you to press your fingers

Read Succeeded

- Press your finger on the screen and do not move, you may also be prompted to press the fingers, but the prompting message will be slower, if your fingerprints has been in the template, it will appear as shown

Trouble shooting

Any question and more cool project your want to share, please visit **DFRobot Forum** (https://www.dfrobot.com/forum/)

More

Fingerprint Datasheet (https://github.com/Arduinolibrary/DFRobot_Fingerprint_Sensor/raw/master/Z70-Fingerprint%20user%20manual.pdf)

 Get **SEN0188:Fingerprint** (https://www.dfrobot.com/product-196.html) from DFRobot Store or **DFRobot Distributor**. (https://www.dfrobot.com/index.php?route=information/distributorslogo)

category: Product Manual (category__Product_Manual) category: SEN Series (category__SEN_Series) category: Sensors (category__Sensors) <!-- Hidden Categories--!> category: Source (category__Source) category: Diagram (category__Diagram)