Fingerprint Scanner UART
Adafruit compatible

Technical Manual Rev 1r0

The ***Adafruit Fingerprint is a PC interface UART (TTL logic level)*** an easy to use for your security project with biometric system, this all in one optical fingerprint sensor will make adding fingerprint detection and verification super simple.Typically used in safes there's a high powered DSP chip that does the image rendering, calculation, feature-findin and searching. Compatible to any gizDuino microcontroller or MCU system with TTL serial and send packets of data to take photos, detect prints, hash and search.Can store up to 162 finger prints in the onboard FLASH memory.

General Specifications:

Input supply voltage: 3.3V
Operating current: <120mA
Signature File: 256 bytes
Template Files: 512 bytes
Store capacity: 162 templates
Security Level: Five (from low to high: 1,2,3,4,5)
PC interface: UART (TTL logic level) or USB1.1
Communications baud rate x N bps: 9600 N=1 to 12
(default value of N = 6,i.e 57600bps)
Module Dimensions: 44.5mmH-a /27mmH-b,29mm Slant,
21mm W-side,21mm W-front
PCB Dimensions: 21mm x 21 mm

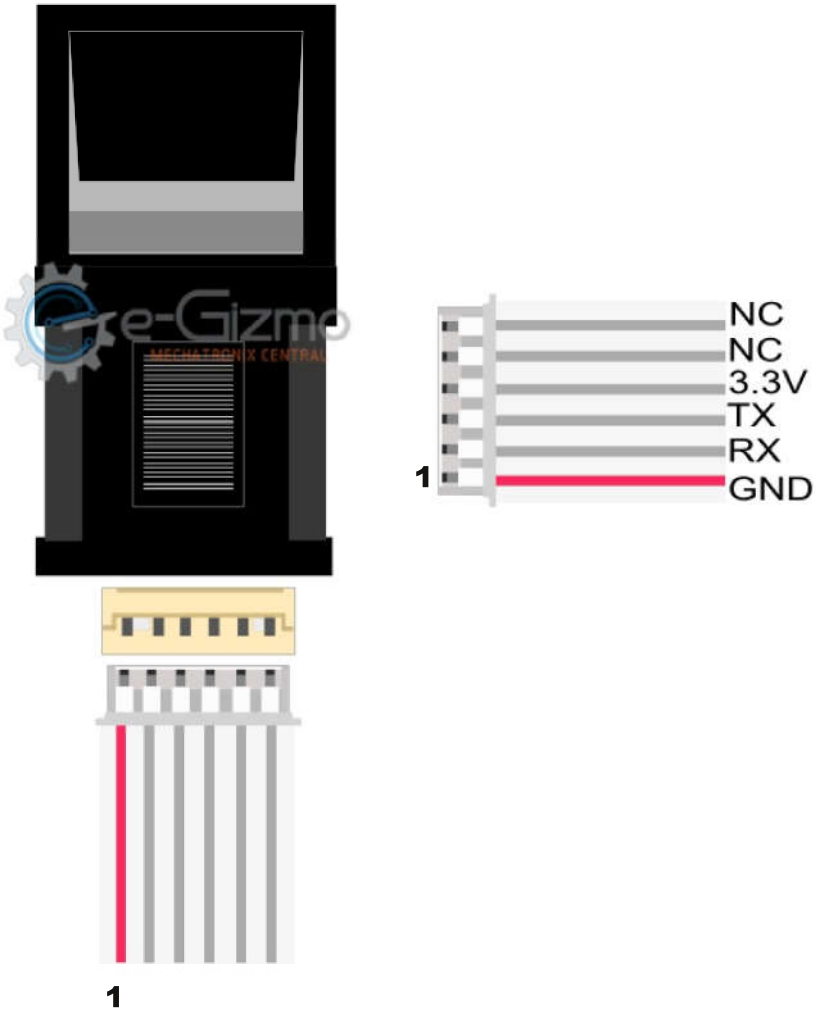


Figure 1: Fingerprint Scanner UART Adafruit Compatible

Wiring Connections:

Gizduino to FPS

GND	**Black wire (1)**
D3	**Green wire (2)**
D2	**Blue wire (3)**
+3.3V	**Red wire (4)**

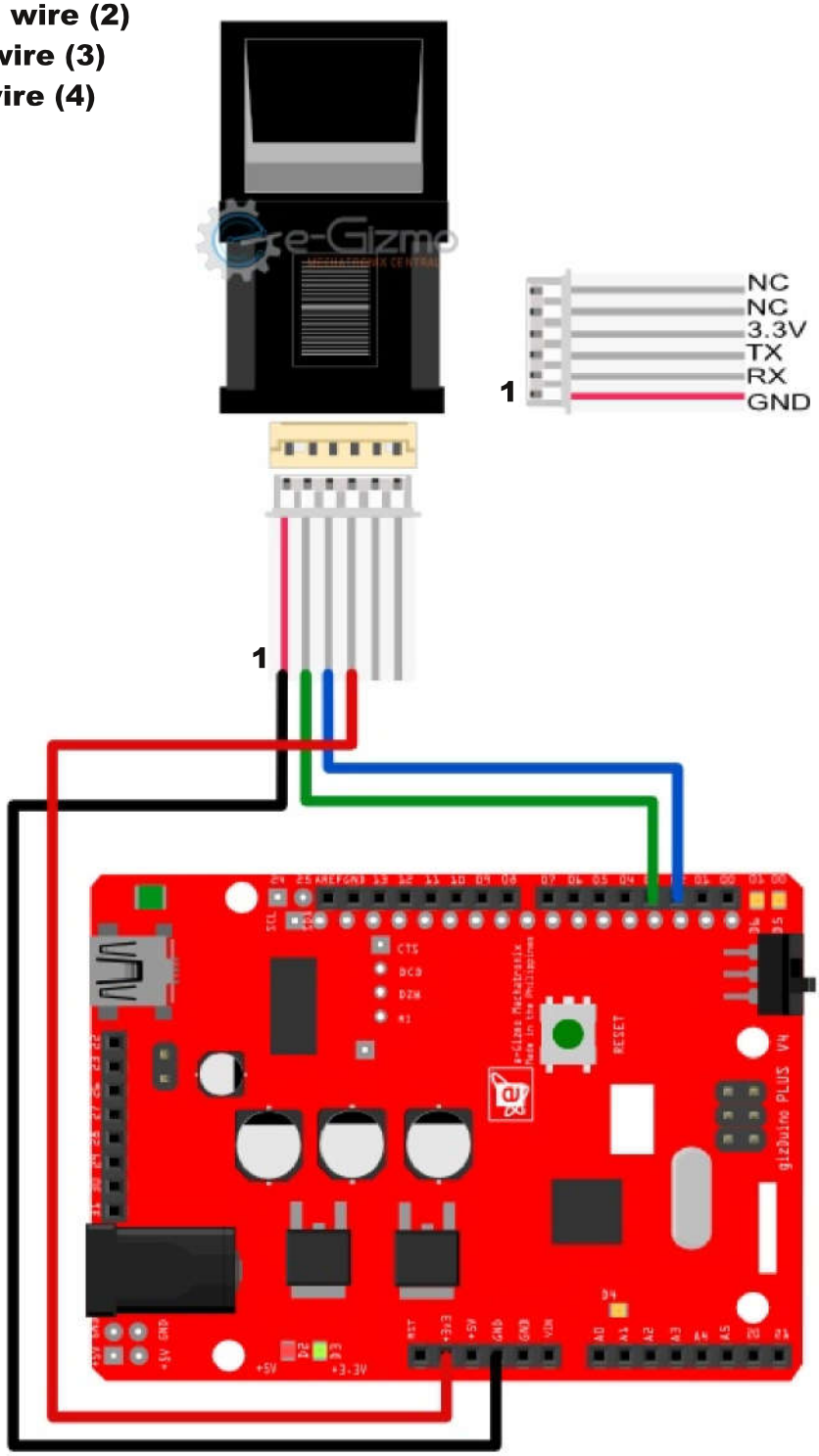


Figure 2: Wiring diagram with gizDuino PLUS.

Adafruit_Fingerprint Library
Download the library from adafruit Github account.
https://github.com/adafruit/Adafruit-Fingerprint-Sensor-Library

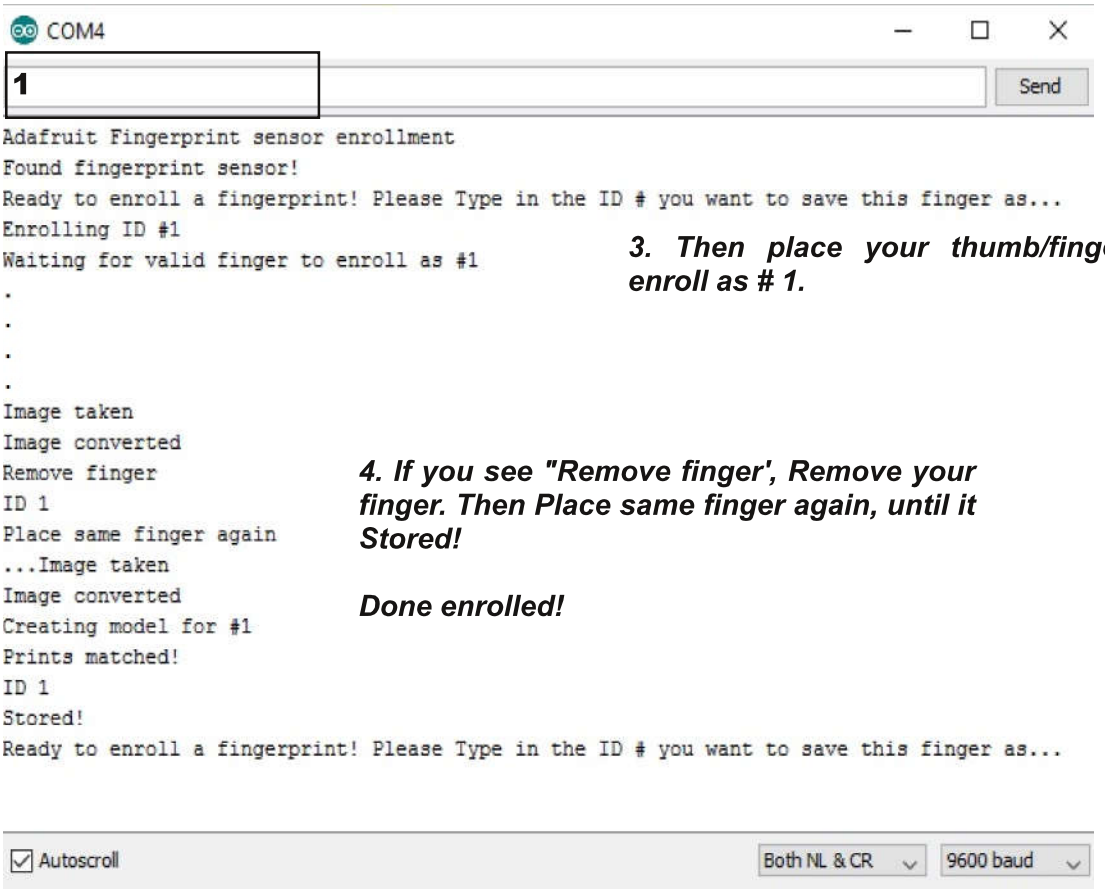
Adding Library
Go to My Documents> Arduino folder> libraries> add the extracted zip file. Folder file name: Adafruit_Fingerprint

Upload the Adafruit_Fingerprint> enroll.ino

Then open the Serial monitor as shown below. When the FP sensor is found and ready to enroll.

1. Type here the ID# you want to save.

2. Press enter or send it.



3. Then place your thumb/fingerprint to enroll as # 1.

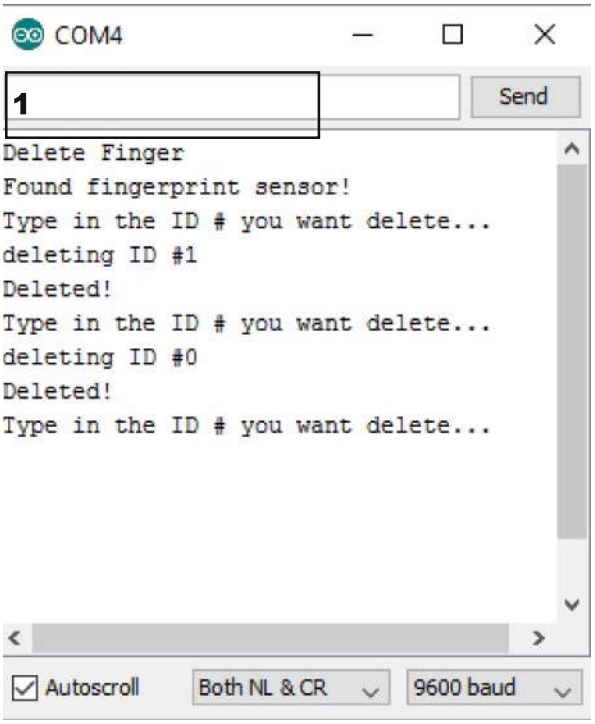
4. If you see "Remove finger', Remove your finger. Then Place same finger again, until it Stored!

Done enrolled!

Upload the Adafruit_Fingerprint> delete.ino

Then open the Serial monitor as shown below. When the FP sensor is found and ready to delete.

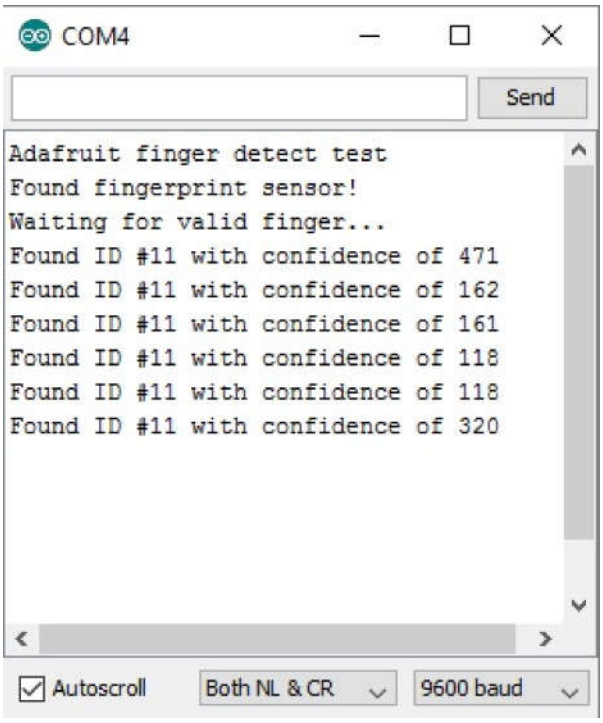
1. Type here the ID# you want to delete.



Upload the Adafruit_Fingerprint> fingerprint.ino

Then open the Serial monitor as shown below. When the FP sensor is found and ready to identify.

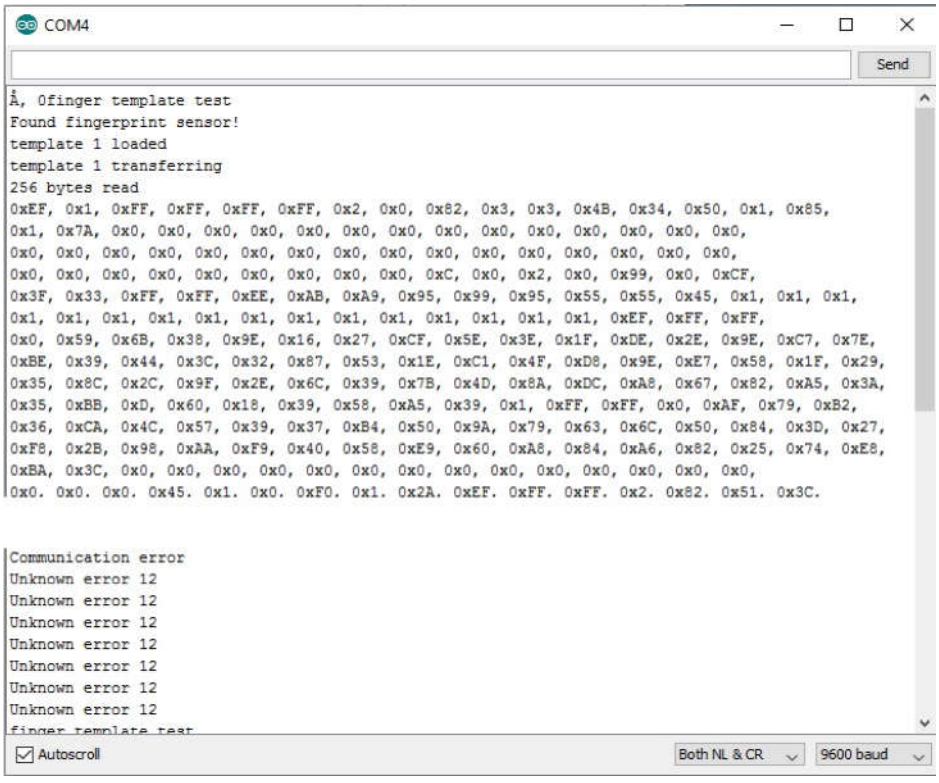
1. Place your finger/thumb that you've been enrolled and it will show up on the serial monitor the # ID with confedence value.



Upload the Adafruit_Fingerprint> show_fingerprint_templates.ino

Then open the Serial monitor as shown below. When the FP sensor is found and ready to template test.

1. Place your finger/thumb that you've been enrolled and it will show up on the serial monitor the data with bytes read in hex format.



Upload the Adafruit_Fingerprint> blank.ino

Blank sample code is compose of

void setup(){}
void loop(){}

Upload this code then make sure your connections from gizDuino with the FPS is correct. Please see the wiring connections (Figure 3).

This code is for SFGDemo rev2.0 from Adafruit website. "Compatible in windows only test software"

Here's the link:
https://learn.adafruit.com/adafruit-optical-fingerprint-sensor/downloads

Wiring Connections:
Gizduino to FPS

GND	**Black wire (1)**
D0/RX	**Green wire (2)**
D1/TX	**Blue wire (3)**
+3.3V	**Red wire (4)**

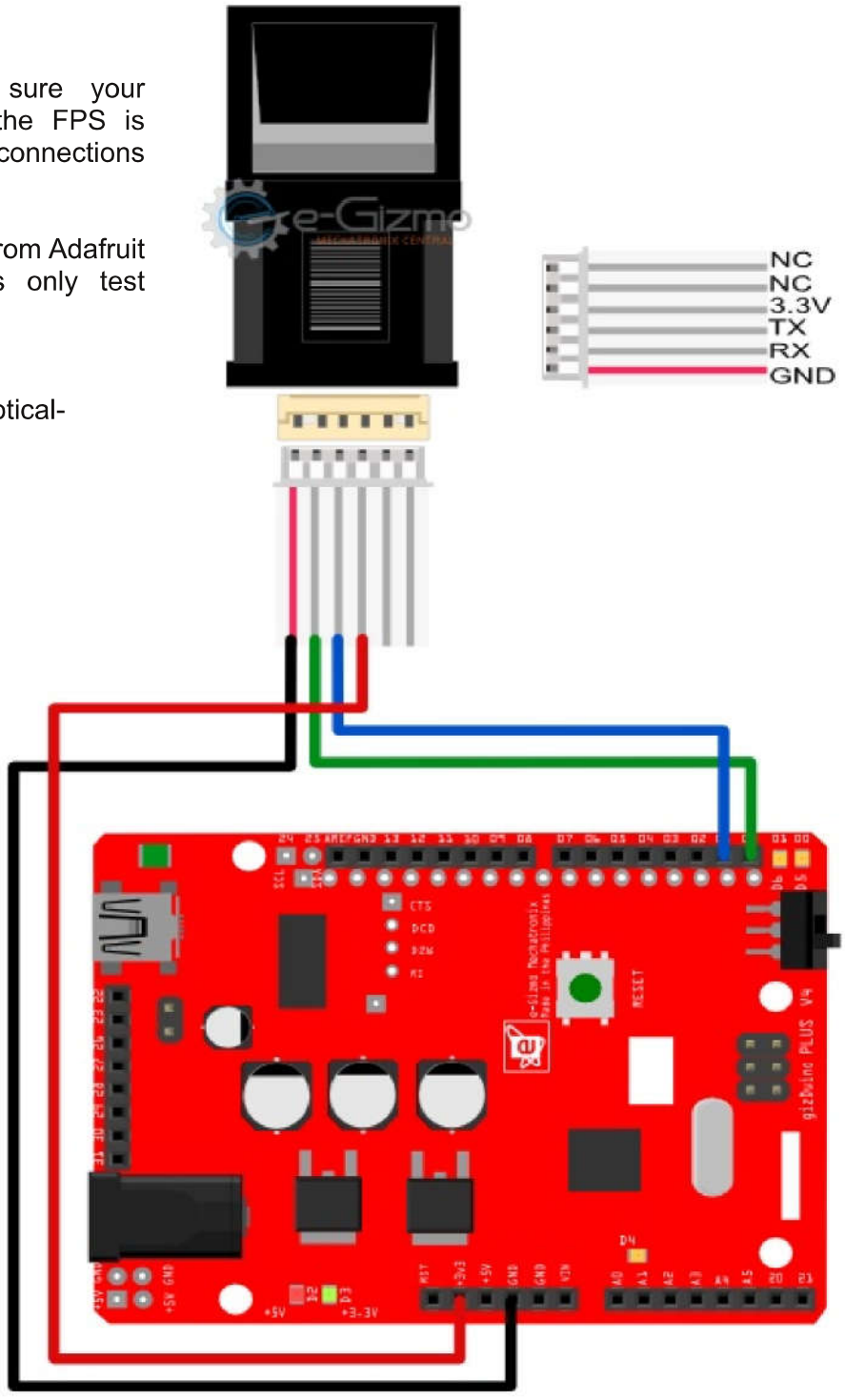
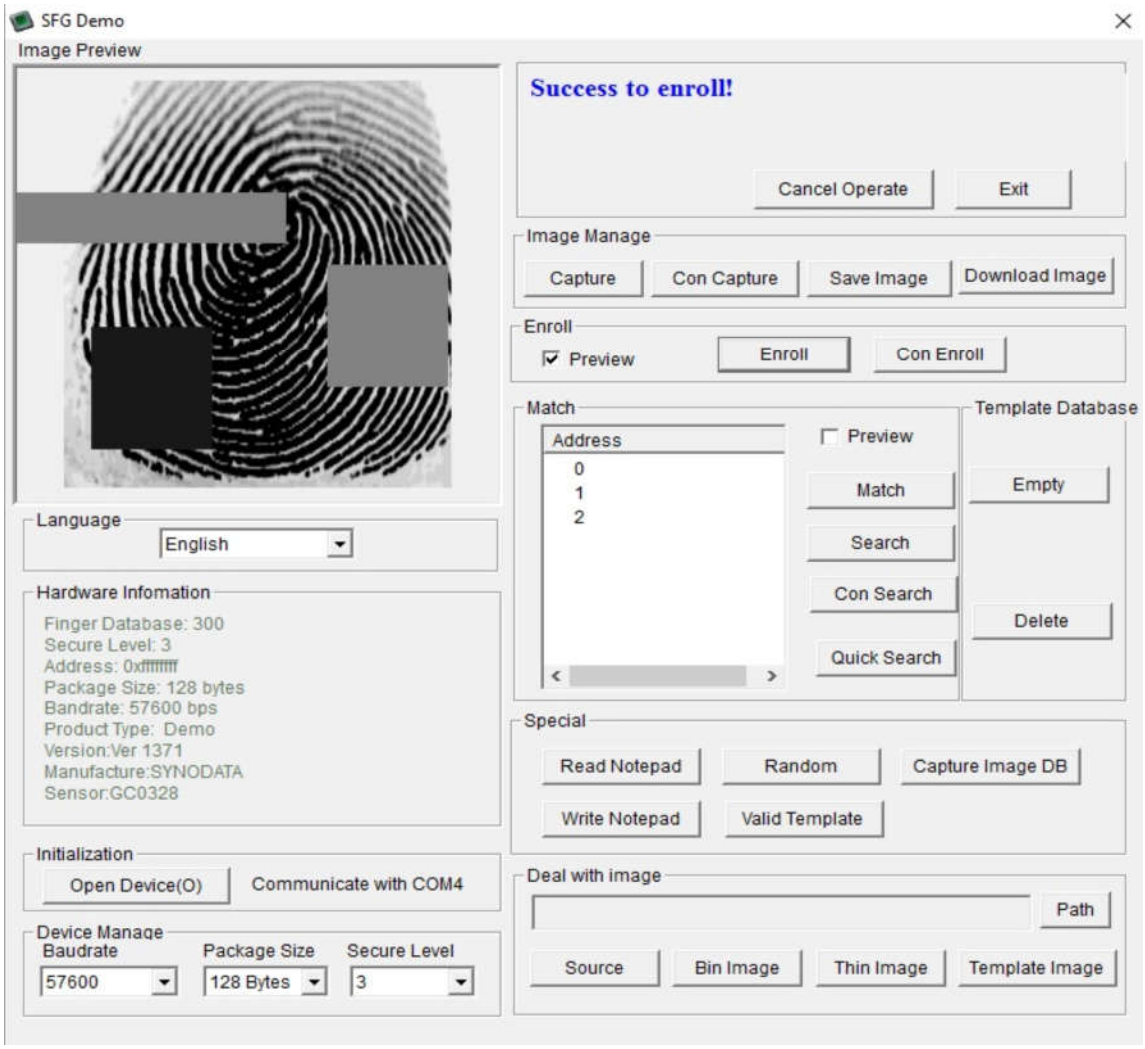


Figure 3:
Sample Diagram to communicate with COM# using SFG Demo Software.



1. Once you've done constructing the wiring connections and uploading the code. Click "Open Device(O)" then a new window will show SELECT the COM PORT NO.

Note: If it is does't connecting, we adviced to change your COM port. or if it is up to COM10 to COM99, change it to COM2 to COM4.

2. If it is connected, and successfully "Communicate with COM#".
Set up this on the "Device Manage" section.
Baudrate: 57600
Package Size: 128Kbytes
Secure Level: 3

3. In "Enroll" section. Check the "Preview", then Click "Enroll". Another window will show up, if the address has already been taken. its up to you to overwrite on it or select/ type your address no. you want.

Just click ok and wait ,up to 8 - 10secs until the transfering is done and for the second attempt for finishing. The message will show up "Success to enroll!".