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Application SW
of Fingerprint Enrollment



User’s Manual (FPrfid-S50)

The **FPrfid-S50** stands out as a robust 13.56MHz Mifare S50 RFID card featuring a built-in capacitive fingerprint sensor equipped with embedded MCU recognition algorithms. Its fingerprint sensor is fortified with a Cermet-like coating, offering a hardness of up to 6H, effectively safeguarding the sensors against scratches, impacts, and the rigors of daily use. This versatile technology finds extensive applications in diverse fields including access control systems, locks and safes, high-security environments, and various standalone authentication applications.

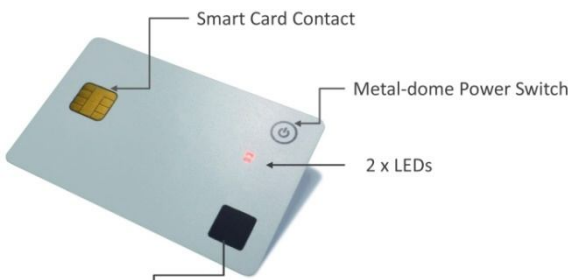
Product Introduction

Smart Card USB Charger



2 x LEDs

Fingerprint RFID Card




Fingerprint Sensor Board

LED Indication

	Green LED	Red LED	
Smart Card USB Charger			
Power On	On	Off	Connect to PC
Card Insertion	Off	On	FPrfid-S50-1 card insert to charger
FPrfid-S50			
Power On	Off	Flash	Press metal-dome power on FPrfid-S50 and wait for fingerprint enrollment
Fingerprint Enrollment	On	Off	Fingerprint enrollment is pass

How to Use Application Software

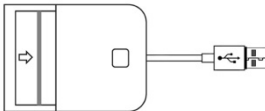
- Step 1: Unzip SmartCard_Basic_Demo.zip on Desk of your PC
- Step 2: Enter folder of Smart Card_Basic_Demo and right-click the smart card _basic_demo icon 
- Step 3: Choose Run As Administrator. The application software of Fingerprint Enrollment will pop up on screen.



“Device is Disconnected OR No correct SmartCard DLL existing”

It means that the card reader is not yet plugged into a USB port or the fingerprint RFID card is not yet inserted into the card reader.

Step 4: Plug Smart Card USB Charger into your PC or Notebook. The green LED of Smart Card Charger is On.



Step 5: Insert Fingerprint RFID card into USB Card Charger. The software of “**Device is Disconnected!**” will become “ **Welcome! Device is ready**”.



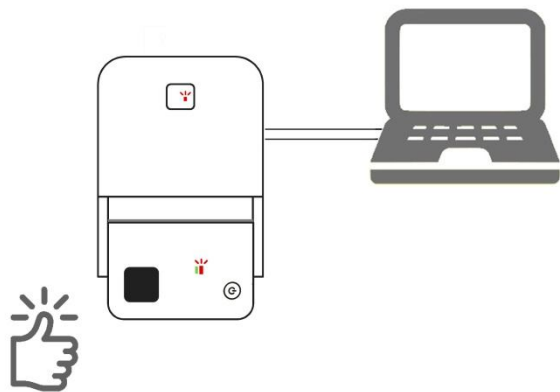
Start to Register your Fingerprint on FPrfid-S50

The system accommodates registration of up to five fingers, capturing 8 images per finger. Each finger registration involves the acquisition of 8 distinct images from various pressing angles, enhancing the reference points for verification. By clicking 'Turn On,' the fingerprint card seamlessly connects to the PC, initiating the registration process. Conversely, selecting 'Turn Off' interrupts ongoing tasks and safely disconnects the fingerprint card from the PC.

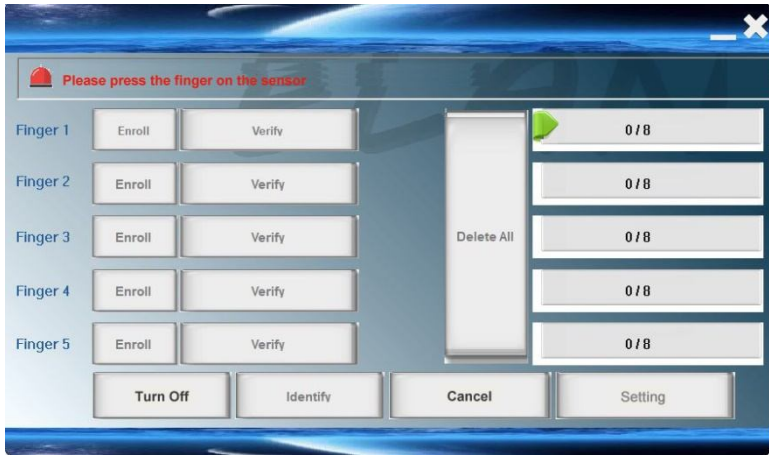
Step 1: Click “Turn on” button and “Enroll” Finger 1



The message of dialogue box is shown “**Please press the finger on the sensor**”. Then the LED of fingerprint card is flash in red.



Step 2: Press 1st finger on the sensor and the LED becomes green if the finger is successfully registered on the card. The message of dialogue box is shown “**Life your finger from the sensor**”.



Tips for Finger Register

In order to improve the accuracy and security of fingerprint matching (more easily recognized), please take 8 fingerprint images with left thumb or right thumb from different angles to generate registration data.

Step 3: Take the same procedure as the rest of the 15 same fingerprint images in different angle until the square boxes in green color are filled in. (Remark: no need to register all five fingers.)

Step 4: Then the dialogue box is shown “**Enrollment is Completed**”



Once the fingerprint registration (8 fingerprint images from different angles with the same finger) has been completed, the fingerprint data is saved into the MCU of the card via PC.

Fingerprint Verification

To verify the fingerprint is successfully registered into the card after completing the registration process.

Step 1: Pulled out and re-inserted into the card reader and click “**Identity**” or “**Verify**” button. Then the dialogue box is shown as “**Please press the finger on the sensor**”

Step 2: Press your registered finger on the sensor. The dialogue box is shown as “**Matched**” or “**Finger 1 is matched**” and then the green LED of the card is on. It means that the registered finger is matched with the fingerprint data of the MCU of the card.



If the fingerprint image cannot be read correctly due to the originally registered finger or other reasons, the message of dialogue box will display “**NO matched finger**”. Then please press the correct finger on the sensor to identify or verify again.

Remove Register Finger

Step 1: Inserted the card into the card reader to check if the square box of the finger 1 Enroll is registered with full green color.

Step 2: Just click “**Delete All**” button. Then the square box will become empty as default.



Trouble Shooting

If the fingerprint image cannot be taken correctly, the square frame will not be filled with a "green color". Generally, the fingerprint image might not be taken correctly in the following situations.

1. the obscure image due to wet fingers (try to wipe first)
2. the obscure image due to dry fingers (wetting first, try again after wiping)
3. no image on the screen. (place your finger correctly on the sensor).

However, excluding the above cases, if you still cannot see the lines of the finger image, please try to use another finger.