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Application SW  
of Fingerprint Enrollment

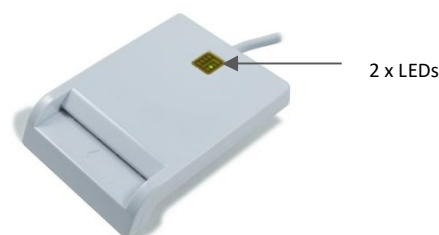


User’s Manual (FPrfid-S50-1)

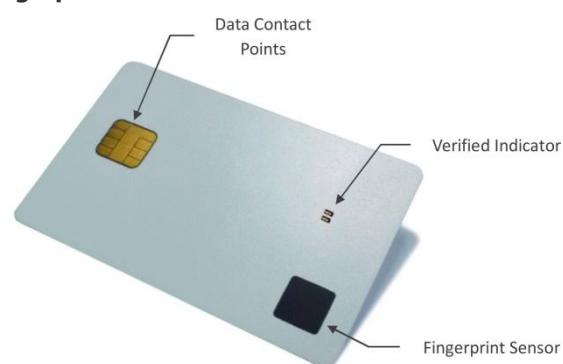
**FPrfid-S50-1 Passive** (without built-in battery) is a powerful 13.56Mhz Mifare S50 RFID card built-in capacitive fingerprint sensor with MCU embedded recognition algorithms. The Cermet-like coating of fingerprint sensor provides up to 6H hardness and protects sensors against scratch, impact, and daily wear-and-tear. It can be widely applied in various fields such as access control systems, locks and safes, high-level security applications, and other standalone authentication applications.

## Product Introduction

### Smart Card USB Charger



### Fingerprint RFID Card



1

## LED Indication

	Green LED	Red LED	
<b>USB Card Reader</b>			
Power On	On	Off	Connect to PC
Card Insertion	Off	On	FPrfid-S50 card insert to enroll
<b>FPrfid-S50-1</b>			
Fingerprint Enrollment	Off	On	FPrfid-S50-1 card insert to card reader
	Off	Flash	Waiting for Enrollment
Verify/ Identify	On	Off	Verified Ok

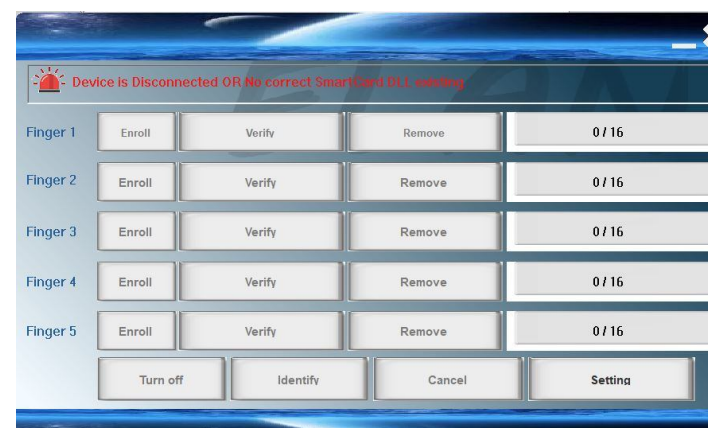
## How to Use Application Software

**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.

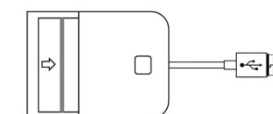


**“Device is Disconnected OR No correct SmartCard DLL existing”**

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.

2

**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”**.



## Register your Fingerprint 1 on FPrfid-S50-1

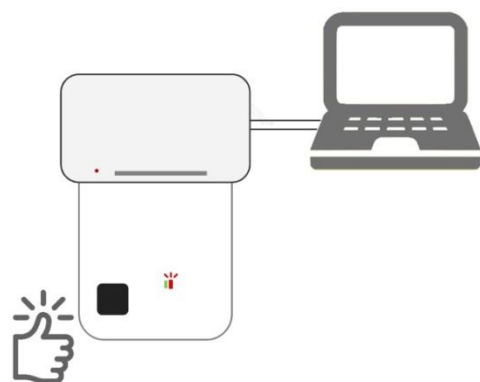
There are 5 fingers and each finger take 16 images. User can register your finger maximum up to 5. Each finger will take 16 images in different pressing angle for reference verifying points. Clicking**“Turn On”**, the fingerprint card is connected to the PC exactly and you can start the registration process. You can also click **“Turn Off”** to interrupt work and disconnect the fingerprint card from the PC.

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

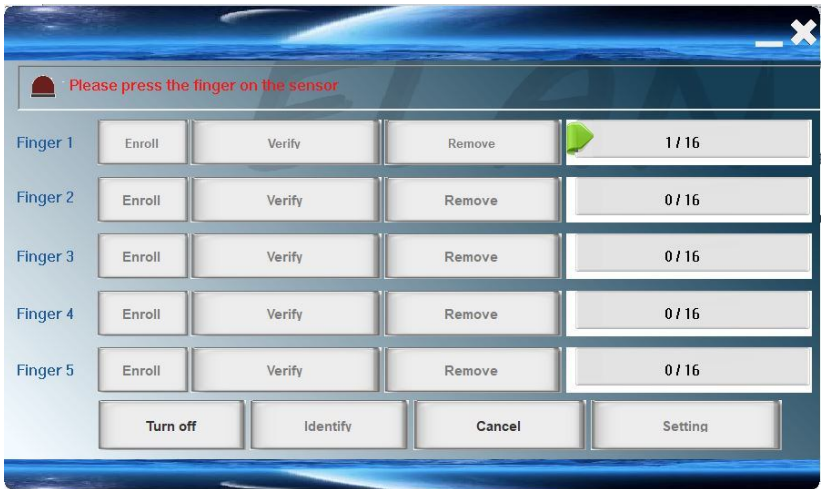


3

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



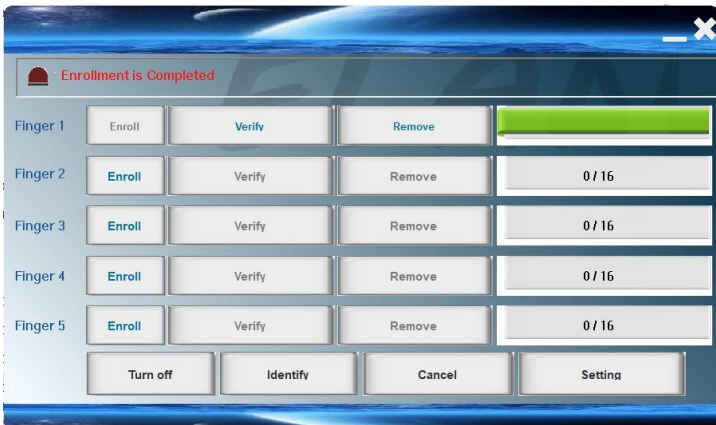
**Step 2:** Press 1st finger on the sensor and the LED becomes green if the finger is successfully registered on the card. The message of dialogue box is shown “**Life your finger from the sensor**”.



◆ In order to improve the accuracy and security of fingerprint matching (more easily recognized), please take 16 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**”



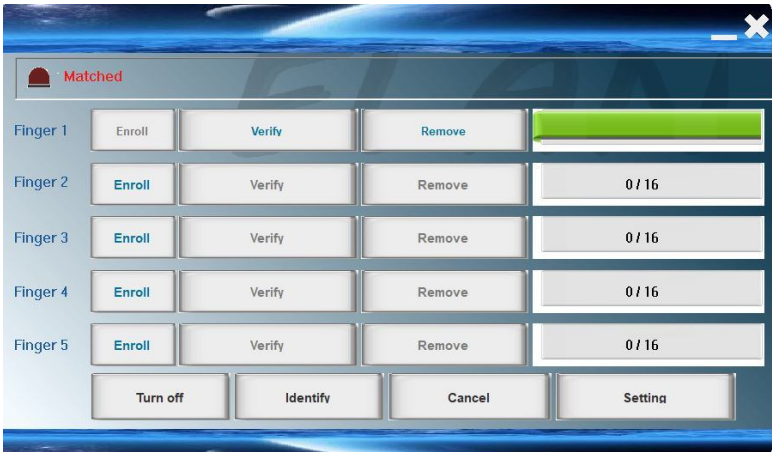
Once the fingerprint registration (16 fingerprint images from different angles with the same finger) has been completed, the fingerprint data is saved into the MCU of the card via PC.

### 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 “**Remove**” 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.