

## Futronic's FS25 USB2.0 Fingerprint Mifare Card Reader/Writer



### **Specification-general**

- USB 2.0 compatible interface, plug and play device
- Work on Windows XP and Vista
- With a 2 meter standard USB cable
- Size, 50 x 73 x 35 mm
- Weight, 200 gram
- Operation temperature: -10 to +55 Degree Celsius
- Supply voltage: DC 4.5-5.5V via USB port
- Power consumption: active <180mA and standby <80mA
- ESD contact - 8KV and air discharge - 16KV, no permanent damage

### **Specification-Fingerprint matcher**

- Fingerprint scanning window size is 16x24mm
- Image resolution is 480x320 pixel, 500 DPI
- 8 bit grey level
- Light source: Infrared LED
- Raw fingerprint image file size is 150K byte
- With Live Finger Detection (LFD) feature
- Can store a maximum of 100 fingerprint
- FAR=0.000001 and FRR=0.01

### **Specification-Mifare card reader/writer**

- Compliant with ISO14443A
- Carrier frequency: 13.56MHz
- Support standard Mifare key encryption
- Support both 1KB and 4KB Mifare card
- Card sensing range: 15mm
- Card read/write time: <0.5sec(also depends on the data size)
- Two colors LED for Mifare card reader/writer status indication

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### **Major features and benefit:**

Futronic's FS25 USB2.0 Fingerprint Mifare Card Reader/Writer combines a fingerprint scanner and an ISO14443A compatible Mifare card Reader/Writer into one device.

FS25 is a standalone fingerprint matcher and can do "Match on Device". Under the control of PC via USB interface, it captures a fingerprint image, extracts the minutiae (fingerprint characteristics) and then stores to its internal memory. The stored fingerprint can be used to match with a freshly captured fingerprint and matching result is sent to PC for authentication. Its internal memory can store up 100 fingerprints.

FS25 can handle ISO14443A compatible Mifare card and has all the necessary card function such as format card, issue card, read card, write card, copy card, erase card, etc. So it can be used as a standalone USB Mifare card Reader/Writer. FS25 supports both 1KB and 4KB Mifare card.

With a combination of fingerprint "Match on Device" and ISO14443A Mifare card Reader/Writer, FS25 is perfect for real two-factors authentication, what you own(finger) is matched with what you carry(Mifare card). It is because fingerprint data can be stored to Mifare card and at the time of authentication:

1. User shows the Mifare card and FS25 read the fingerprint data stored in card.
2. Then put finger and FS25 scans the fingerprint image.
3. FS25 matches the scanned fingerprint with the fingerprint data read from the Mifare card.
4. The matching result is sent to PC for authentication

Futronic provides full SDK to customers to make such two-factor authentication application.

The use of fingerprint recognition for logical and physical access control has been controversial. It is because the fingerprint data must be stored somewhere in system for authentication. This may infringe the privacy of users in some cases. And FS25 is the answer to this problem as it can identify an individual using fingerprint without storage of fingerprint data in the system.

FS25 can also be used to together with Fingerprint authentication Server (FAS) which is Futronic proprietary software running on MS Windows for user and finger database management and access and attendance control. FAS controls Futronic Access and Attendance Control Devices FS20, FS21M and FS22. System administrator can use FS25 to issue Mifare card that can access FS21M and FS22. So FS25, together with FAS and FS22/FS21M, can form a complete web-enable fingerprint access control system that supports Mifare card.