# FS26E FIPS201/PIV Compliant USB2.0 Fingerprint Scanner with Encrypted USB communication



## General spec
- USB 2.0 compatible interface, plug and play device.
- Work on Windows, Linux and Android.
- 2 meter standard USB cable
- Size, 98 x 98 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 is 150mA and standby is 70mA.
- ESD contact - 8KV and air discharge - 16KV, no permanent damage

## Fingerprint scanner spec
- Scan fingerprint and send to USB host real time.
- Fingerprint scanning window size is 16x24mm
- Image resolution is 320x480 pixel, 500 DPI
- 8 bit grey level
- Light source: Infrared LED
- Optical system, lifetime up to one million scans.
- Live Finger Detection (LFD)

## Encrypted USB channel
- AES256 according to FIPS197
- Diffie-Hellman key exchange algorithm, DH2048, according RFC5114.
- SHA256 for key generation

## Build-in Digital Signature
Elliptic Curve Digital Signature Algorithm (ECDSA) according to FIPS186-4. Use 256bit at FS26E and 512bit at PC.

## Major features and benefit:

Futronic's FS26E is a high performance USB2.0 Fingerprint scanner with encrypted USB communication. It was certified by FBI to be compliant with PIV-071006 Image Quality Specification for Single Finger Reader.

The communication between FS26E and USB host is encrypted with AES256 algorithm. This secures the data going through the USB channel, such as fingerprint, minutiae, user information, etc. Even there is an USB listener that can capture all the data, it takes long time to decrypt them because of the strong encryption. The captured data by USB listener is useless. As there is powerful CPU in FS26E, the data transmission speed of the encrypted USB communication is almost not affected

An unique Digital Signature can be assigned to each FS26E for device authentication. This makes the Man-in-the-Middle attack impossible.

Futronic provides Dynamic Link Library (DLL) which does the data encryption in the USB host. Customers can include the DLL into their application programs. So the encryption process is transparent to application developer.

With all these features, FS26E is a perfect device for customers who need to make strong authentication solution for banks, government authorities and software protection application. Futronic will provide SDK and technical support to customers.