



Biometrika^{IT}

FxQuicky

Fingerprint Scanner (Match-on-Board)



Technical specifications

FxQuicky is a smart scanner capable of processing and recognizing fingerprints on board (Match-on-Board).

The PC connected to the scanner is not involved in the processing of biometric data: images and templates of the users are not transferred to the PC, thus increasing the ease to use. FxQuicky can internally store about 1500 templates. On demand it is possible to order a version with storage capacity of 10000 templates.

FxQuicky is the ideal solution to replace old identification system based on badge, barcode, smart card and RFID with a more reliable fingerprint technology.

FxQuicky doesn't require an SDK, but can be used thanks to a simple protocol called ICP (Integrator Control Protocol). This protocol is based on a set of commands exchanged over a virtual COM.

This protocol is very fast to integrate and cut down integration time in software development.

Fingerprint Sensor

- Optical, high resolution (500 dpi)
- Sensing area: 13 x 25 mm
- ISO standard model

Match-on-Board

- Core ARM9 (200 MHz) + 16 MB RAM
- Identity verification in less than 1 sec

Memory capability

- Basic – 4 MB Flash (about 1500 users)
- Max 32MB Flash (about 10000 users)

Interface and development

- USB 2.0 HS – Virtual COM Port
- Windows XP, Vista, 7,8
- Linux
- Mac OS X
- No SDK required
- ICP: command protocol very easy and quick to implement (supplied libraries and examples code)

Power supply and size

- USB: 5V DC, 350mA (max)
- Size: 75 x 65 x 125 mm (WxHxD)

Accessories

- Relay board Fx2Relay
- Sun Technology



FxQuicky

Fingerprint Scanner (Match-on-Board)

Fingerprint Sensor

The high resolution of the internal sensor (500 dpi; as FBI specifications) and its very large sensing area significantly improves fingerprint recognition accuracy: the resolution and area of the FxQuicky module are the highest among the existing fingerprint modules. Thanks to these features, false rejections due to incorrect finger placement are drastically reduced.

Microprocessor and memory

The core of FxQuicky is a board equipped with a powerful microprocessor (RISC 32-bit, 200 MHz, ARM9) and 16 MB of RAM. This allows very large images (560×296 pixels) to be processed on-line, without jeopardizing recognition accuracy.

Accuracy and efficiency

FxQuicky can operate both in Verification mode (1:1 match – PIN based), and Identification mode (1:N search on the database of enrolled users) with a very low error rate. A single user verification takes about 0.8 seconds.

Template Storage

The FxQuicky (basic model) stores up to 1500 fingerprints (up to 10000 in the model with max flash memory). Fingerprints are not stored as images but as templates (compact numerical features extracted from them). From a fingerprint template it is not possible to reconstruct the original fingerprint image.

Integrator Command Protocol (ICP)

FxQuicky can be driven by third party devices through the ICP (Integrator Control Protocol). The USB connection is identified by the host as a virtual COM port and using this COM is very easy to send commands and receive results. FxQuicky operates as a biometric co-processor and supports the storage of fingerprint templates: the external host (master) sends all requests (enrolment, verification, and identification) to the FxQuicky (slave), and waits for a response. Through ICP it is also possible to export/import/delete fingerprint templates and adjust several system parameters.

Integration and Development

FxQuicky is distributed with:

- 1) Virtual COM driver for Windows, Linux and Mac
- 2) ICP Win software for controlling FxQuicky from a PC running Windows
- 3) ICP Win source code available in C language
- 4) C library for ICP protocol

Operative System

Windows: XP, Vista, 7, 8
Linux
Mac OS X

Accessories

Fx2Relay: board with relay activated on positive matching
SUN Technology: this technology can broaden the application range of fingerprint scanners to environments where sun light is strong and incident to the scanner, reducing its interference and in fact shielding the reader from this condition

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