# Biometrika

# FxLock
## Access control and Time&Attendance



FxLock is a professional biometric terminal for fingerprint-based access control and time&attendance applications.

The internal high quality fingerprint sensor and the powerful microprocessor, make FxLock extremely secure and accurate.

FxLock can operate as stand-alone device or in a network with other devices.

Thanks to the modularity of the components and the availability of a versatile Software Development Kit, FxLock is the ideal solution for system integrators.

Biometrika can also develop custom solutions where FxLock can be equipped with audio peripherals (microphone and speaker) and a digital camera.

## Technical specifications

### Fingerprint Sensor
- Optical, high resolution (569 dpi)
- Wide acquisition area (13.2x25 mm$^2$)

### Microprocessor and memory
- RISC 32-bit, 200 MHz, core ARM9
- 32 MB RAM

### Storage
- Basic – 8 MB Flash (about 1500 users)
- Max 32 MB Flash (about 10000 users)

### Keyboard and display
- Ergonomic keyboard (14 buttons)
- Large back-lighted display (20x4)
- FxLock standard color: blue *

### Options
- Relays board (2 relay or 4 relay)
- Proximity reader (RFID)
- SmartCard reader (SC)
- Lithium back-up battery
- SUN technology

### Networking
- RS 232, Ethernet (TCP/IP)

* Other colors available only for volumes (>100 pcs)

| | |
|---|---|
| **Fingerprint Sensor** | The high resolution of the internal sensor (569 dpi; i.e., 69 dpi more than FBI specifications) and its very large sensing area significantly improve fingerprint recognition accuracy: the resolution and area of FxLock sensor are one of the highest in existing biometric terminals. Thanks to these features, false rejections due to an incorrect placement of the finger are drastically reduced. |
| **Microprocessor and Memory** | The core of FxLock is a board equipped with a powerful microprocessor (RISC 32-bit, 200 MHz, ARM9) and 32 MB of RAM. This allows, very large images (560×296 pixels) to be processed on-line, without jeopardizing recognition accuracy. |
| **Accuracy and Efficiency** | FxLock 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. User verification takes about 0.8 seconds. |
| **Templates and Transactions Storage** | The FxLock (basic model) can store up to 1500 fingerprints (up to 10000 in the model with max flash memory). Fingerprints are not stored as images but as templates (i.e., compact numerical features extracted from them): from a fingerprint template it is not possible to reconstruct the original fingerprint image. The terminal can locally store users' transactions. |
| **User Interface** | FxLock is equipped with a large back-lighted display (20x4) and a comfortable keyboard which allows the user/administrator to interact with the terminal and control it in a very simple way. Users can be enrolled locally or from a remote computer. |
| **Smart Card** | FxLock can be equipped with a smart card reader (or a proximity card reader). Fingerprint templates can be stored on the cards (in encrypted form), so that it is not necessary to maintain a centralized database; each user carries his/her biometric features in his/her pocket (max privacy). Using smart cards also allow to access different non-interconnected terminals. |
| **Security** | All the data in transit among different system components are encrypted with state-of-the-art algorithms and dynamic keys (128 bits). The FxLock relay board (FxRelay), which has to be mounted in the internal side of the room to protect, communicates with FxLock in encrypted way following a challenge-response protocol. |
| **Stand-alone or Network** | FxLock can operate as a complete stand-alone unit (e.g., to control a single door) needing no PC. Further, FxLock units can be interconnected through a communication network and controlled by a Server (PC). Biometrika can provide ready-to-use software solutions for centralized access control and time&attendance applications (including advanced management of users, groups, gates, permissions, etc.). |

**Biometrika**

Via Respighi 13, 47841 Cattolica (RN) ITALY
Phone +39 0541 833160 Fax +39 0541 833166
**www.biometrika.it**