SECUKEY SF2

SECUKEY SF2 Biometric and PIN Access Control System User Manual

Model: SF2

1. Introduction

Thank you for choosing the SECUKEY SF2 Biometric and PIN Access Control System. This device is designed to provide secure and reliable access management for various environments, featuring advanced biometric fingerprint recognition and PIN code entry. Its robust, anti-vandal design and IP66 rating make it suitable for outdoor installations. This manual provides essential information for the proper installation, configuration, operation, and maintenance of your SF2 system. Please read it thoroughly before use.

Key Features

- Optical Biometric Fingerprint Reader with 500DPI resolution.
- Fast Identification Time: Approximately 1 second.
- User Capacity: Up to 3,000 users (1,000 fingerprint users, 2,000 PIN users).
- Two "Authorizer" users for enabling/disabling other users.
- IP66 Rated for Outdoor Protection: Resistant to dust and powerful water jets.
- Anti-Vandal Zinc Alloy Casing.
- Programmable Relay Output (NO, NC, Common) with adjustable time (1-99 seconds, default 5 seconds).
- Access Modes: Fingerprint, PIN code, or Card (Wiegand 26-44 bit output).
- Wiegand 26-44 bit output for integration with external controllers (e.g., SBOARD, SBOARD-II).
- Interlock Functionality: Manage two doors with two SF2 devices.
- Operating Temperature Range: -30°C to 60°C (-22°F to 140°F).
- Humidity Range: 10%RH to 99%RH.
- Power Supply: 12-24V AC/DC.

2. Safety Information

- Ensure the power supply is disconnected before installation or maintenance.
- Use only the specified power supply (12-24V AC/DC).
- Do not expose the device to extreme temperatures outside the specified operating range.
- Avoid using harsh chemicals or abrasive cleaners on the device.

- Installation should be performed by qualified personnel to ensure proper wiring and functionality.
- Keep the fingerprint sensor clean and dry for optimal performance.

3. Product Overview

3.1 Front View

Figure 1: Front view of the SECUKEY SF2 access control system, showing the numeric keypad, fingerprint sensor, and the 'Secukey' brand logo.

3.2 Back View and Connections

Figure 2: Back view of the SECUKEY SF2, illustrating the wiring cable exit point, model number (SF2), input voltage (12V DC), and CE certification mark.

3.3 Physical Characteristics

- **Anti-Vandal Design:** The SF2 features a robust metal casing designed to withstand tampering and physical impact, ensuring durability in challenging environments.

Figure 3: Illustration demonstrating the anti-vandal metal case of the SECUKEY SF2, designed for enhanced durability and protection.

- **IP66 Waterproof Rating:** This rating ensures the device is protected against dust ingress and powerful water jets, making it suitable for outdoor installation without concern for weather conditions.

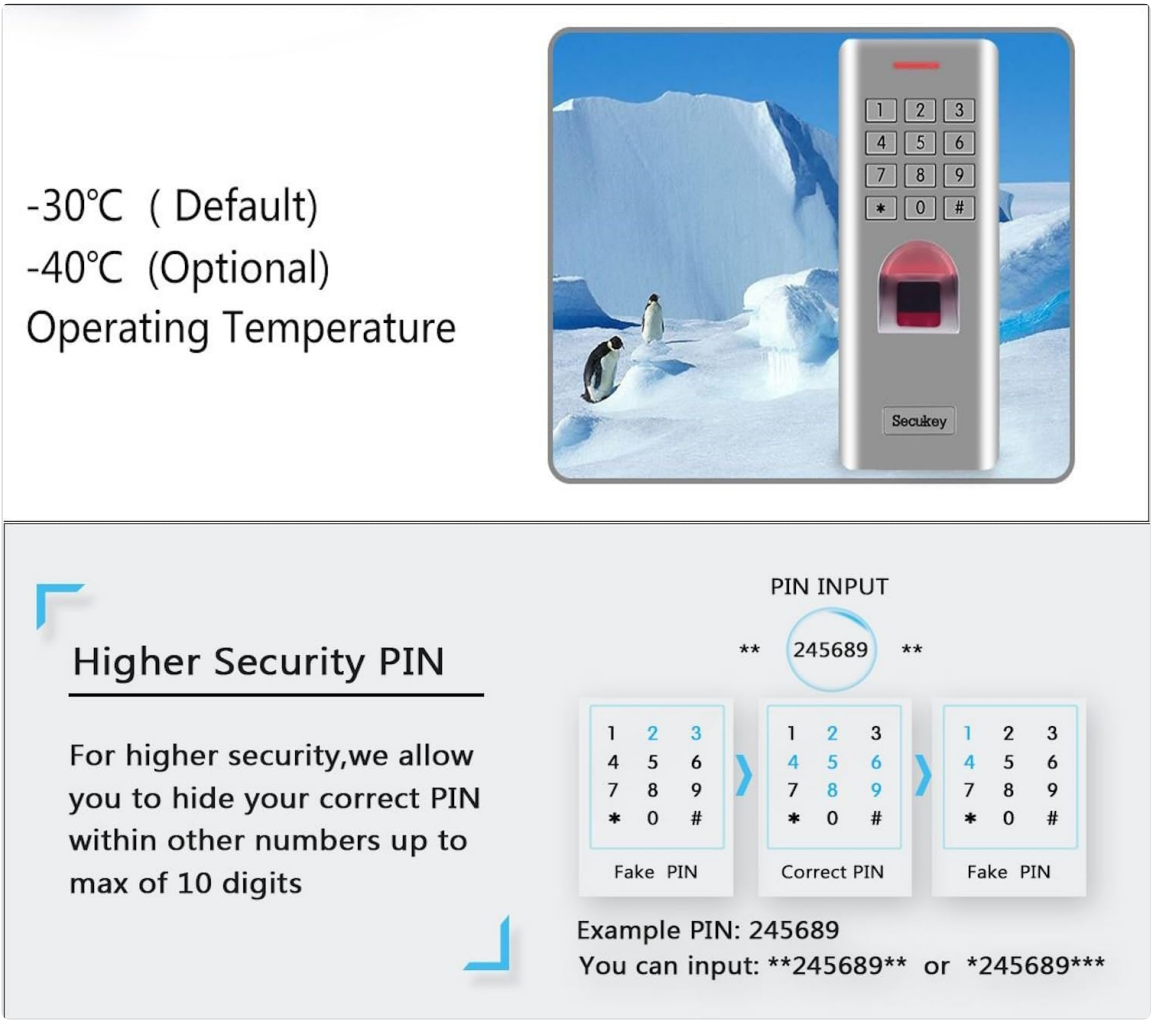

Figure 4: Visual representation of the SECUKEY SF2's IP66 waterproof capability, showing it submerged in water.

- **Operating Temperature:** The device is designed to operate reliably across a wide temperature range, from -30°C (default) to 60°C. An optional -40°C operating temperature may be available depending on the specific model variant.
- **Higher Security PIN:** The system supports a feature allowing users to hide their correct PIN within a longer sequence of numbers (up to 10 digits) for enhanced security against shoulder surfing. For example, if the PIN is 245689, a user could input **245689** or *245689***.

4. Installation

4.1 Mounting

The SECUKEY SF2 should be mounted on a flat, stable surface at an appropriate height for user access. Ensure the mounting location is secure and allows for proper cable routing. Use appropriate screws and anchors for the wall material.

4.2 Wiring

The SF2 supports two primary working modes: standalone and as a slave reader. Proper wiring is crucial for correct operation. Refer to the detailed wiring diagram provided in the product packaging or the manufacturer's official documentation for specific connections.

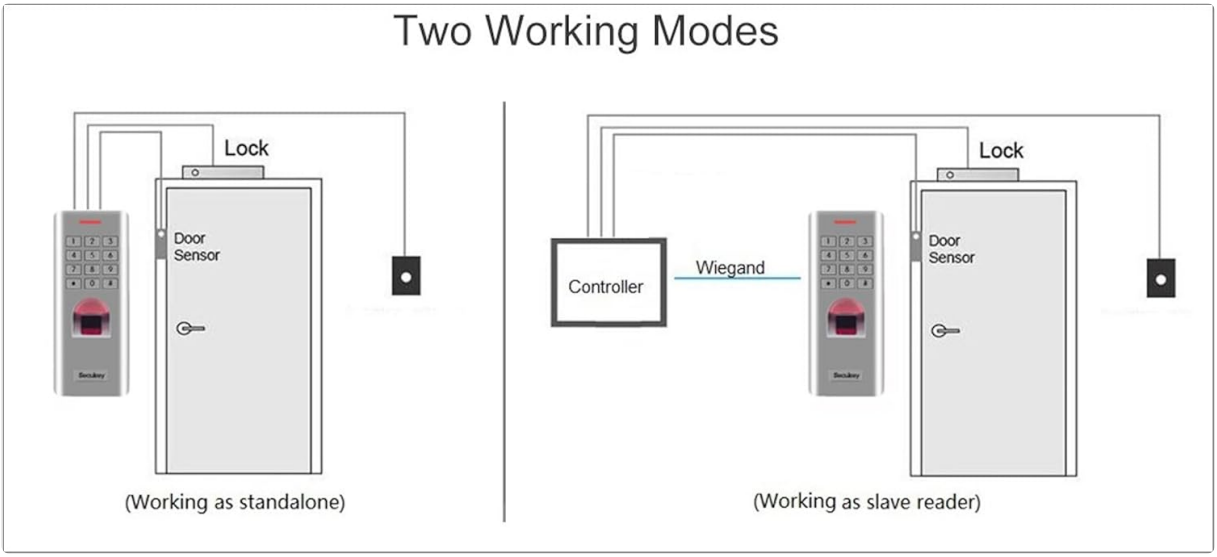

Figure 5: Diagram illustrating the two working modes of the SECUKEY SF2: standalone operation (left) and slave reader operation integrated with a controller via Wiegand (right). This image also shows the operating temperature range and the higher security PIN input method.

Standalone Mode: In this mode, the SF2 directly controls the lock, door sensor, and exit button. It acts as a complete access control unit.
Slave Reader Mode: When operating as a slave reader, the SF2 connects to an external access control panel (controller) via Wiegand 26-44 bit output. The controller then manages the lock and other peripherals.
Ensure all connections are secure and insulated. Incorrect wiring can damage the device or connected components.

5. Setup

5.1 Initial Power-Up

1. After completing all wiring, connect the power supply (12-24V AC/DC).
2. The device will power on and perform a self-test.
3. The default administrator PIN is typically 123456 (refer to specific product documentation for confirmation).

5.2 User Management

The SF2 allows for the registration of up to 3,000 users, including 1,000 fingerprint users and 2,000 PIN users. It also supports two "Authorizer" users who can enable or disable other users.

Adding an Administrator

Follow the on-screen prompts or refer to the detailed programming guide to set up the initial administrator PIN and/or fingerprint. This is crucial for managing other users and system settings.

Registering Fingerprints

1. Enter administrator mode.
2. Select the option to add a new fingerprint user.
3. Place the user's finger on the sensor multiple times as instructed to ensure accurate registration.
4. Assign a user ID to the registered fingerprint.

Registering PIN Codes

1. Enter administrator mode.
2. Select the option to add a new PIN user.
3. Enter the desired PIN code (typically 4-6 digits) and confirm it.

4. Assign a user ID to the registered PIN.

Authorizer Users

The SF2 supports two special "Authorizer" users. These users have the unique ability to enable or disable other standard users without full administrator privileges. This feature is useful for delegated management of user access.

6. Operating Instructions

6.1 Access Modes

The SECUKEY SF2 offers multiple ways for authorized users to gain access:

- **Fingerprint Access:** Place a registered finger on the optical sensor. The system will verify the fingerprint and grant access if authorized.
- **PIN Code Access:** Enter your registered PIN code on the keypad, followed by the '#' key. For enhanced security, you can embed your PIN within a longer sequence of numbers (e.g., if PIN is 1234, you can enter 987**1234**56#).
- **Card Access (Wiegand):** If configured with an external Wiegand card reader, present your authorized RFID card to the reader. The SF2 will output the Wiegand data to the controller for verification.

6.2 Interlock Function

When two SF2 devices are installed, they can be configured to manage an interlock system between two doors. This ensures that the second door cannot be opened until the first door is securely closed, enhancing security in sensitive areas. Refer to the advanced programming guide for interlock setup instructions.

7. Maintenance

- **Cleaning:** Regularly wipe the fingerprint sensor and keypad with a soft, dry, lint-free cloth. Do not use abrasive materials or chemical cleaners.
- **Firmware Updates:** Check the manufacturer's website periodically for any available firmware updates to ensure optimal performance and security.
- **User Database Management:** Regularly review and update the user database, removing access for terminated personnel or adding new users as required.
- **Power Supply Check:** Ensure the power supply is stable and within the specified voltage range (12-24V AC/DC).

8. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	No power supply or incorrect wiring.	Check power connections and ensure the power supply is within 12-24V AC/DC. Verify wiring according to the diagram.
Fingerprint not recognized.	Finger is dirty, wet, or improperly placed; fingerprint not registered; sensor is dirty.	Ensure finger is clean and dry. Place the entire pad of the finger firmly on the sensor. Clean the sensor surface. Re-register the fingerprint if necessary.
PIN code not accepted.	Incorrect PIN entered; PIN not registered.	Verify the PIN code. Ensure the '#' key is pressed after entering the PIN. Register the PIN if it's a new user.

Problem	Possible Cause	Solution
Door does not unlock after successful authentication.	Lock wiring issue; relay setting incorrect; lock malfunction.	Check wiring to the lock. Verify relay output time and mode (NO/NC). Test the lock independently.
Device is unresponsive.	System crash; power fluctuation.	Disconnect power for 30 seconds, then reconnect. If the issue persists, contact technical support.

9. Specifications

Parameter	Value
Model Number	SF2
Biometric Reader Type	Optical
Resolution	500DPI
Identification Time	< 1 second
FAR (False Acceptance Rate)	0.001%
FRR (False Rejection Rate)	0.01%
User Capacity	3,000 (1,000 Fingerprint, 2,000 PIN)
Authorizer Users	2
Protection Rating	IP66 (Outdoor, Anti-Vandal)
Relay Output	1 programmable (NO, NC, Common)
Output Time	1 to 99 seconds (Default: 5 seconds)
Access Modes	Fingerprint, PIN, Card (Wiegand)
Wiegand Output	26-44 bit
Power Supply	12-24V AC/DC
Lock Output Load	2 Amp maximum
Operating Temperature	-30°C to 60°C (-22°F to 140°F) (Optional -40°C)
Operating Humidity	10%RH to 99%RH
Casing Material	Zinc Alloy
Color	Silver
Dimensions	13.7 x 5.8 x 2.6 cm
Weight	400 g

10. Warranty and Support

For warranty information and technical support, please refer to the documentation included with your purchase or visit the official SECUKEY website. Keep your purchase receipt as proof of purchase for warranty claims. Information regarding spare parts availability and software updates is not explicitly provided in the product details. Please contact SECUKEY customer service for the most current information.