User Manual - Fingerprint Door Lock
STFinger2013 from Solartorrent.com

Congratulations on purchasing a superb biometric lock designed and manufactured by Solartorrent.

COMPARISON	STFinger2013 (Ours)	With Sliding Cover (Others)	With RFID (Others)
DESIGN	Simple and Practical Design	Must remember to open/close cover, cover may break, forgotten PIN	Consume power even when not using RFID card. RFID misplaced or its sensor failure lead to lock failure
COST	Least Cost	Cost More	Cost More
EMERGENCY	Self-powered Electronic Key	Metal Key may be misplaced	Metal Key misplaced
WATER RESISTANT	Yes	Water Ingress via keys if user forget to close cover	Yes
SIZE	Smallest, can use door's pre-drilled upper or lower holes	Cover Needs Vertical Space, must use door's upper hole only	Needs more vertical space, must use door's upper hole

You need to specify left-handed or right-handed door when ordering, see Figure III-b.

Requirements
1. Standard U.S. doors with two door holes. Fit door's thickness: 1-3/8" to 1-7/8". STFinger2013 can use either the upper OR lower hole.
2. 1 lower 5/16" hole and two 3/8" holes must be drilled, see Figure III-a.
3. 4 AA-size batteries, do not use rechargeable.
4. Screwdriver.

I   Function Description

Two fingerprints dedicated to administrators. Administrators can add or delete master (administrator) or/and common user fingerprints.

Low Voltage Alarm: If the lock emits "Di---"or five times, it means that the voltage is low, please change batteries asap.

II   Operation

1) Enroll the first Master Fingerprint

Action	Sound Response	Lights Response
a) Press both ADD and DEL to initiate enrollment mode	Short beep	Green/Red flash, then Release ADD and DEL
b) Place master fingerprint (don't move)	Success: Long beep. Failure: beep, beep (e.g., 2 master fingerprints already registered)	Lights off
c. wait, to exit enrollment mode	Beep, beep, beep (exited)	

2) Enroll the second Master Fingerprint – repeat steps in II-1 above.

3) Change a Master Fingerprint

Action	Sound Response	Lights Response
a) Place active master finger on sensor to login	Short beep	Green flash
b) Within 3 seconds, press both ADD and DEL to initiate change mode	Long beep	Red and green flash alternatively

		Success: long beep Failure: beep, beep	
	c) Place **new** master finger on sensor, no movement		

4) Enroll Common User Fingerprints

This operation can add up to 120 common user fingers. After master finger login, you can repeatedly add fingerprints without requiring master finger logging in again.

Action		Sound Response	Lights Response
	a) Place active master finger on sensor to login	Short beep	Green flash
	b) Press ADD	Beep	Green flashes, you release ADD
	c) Place new user finger on sensor and wait, no movement	Success: long beep Failure: beep, beep Maximum 120 users reached: Long-short-Long-short beep	Green flashes to signal ready for next new user fingerprint. Repeat (4c) to add another fingerprint or wait 6 seconds to exit enroll common user mode

5) Delete Common User Fingerprints

To delete a specific fingerprint, that finger must be available for the sensor. After deleting a fingerprint you can delete the next fingerprint, without requiring master login again.

Action		Sound Response	Lights Response
	a) Place active master finger on sensor to login	Short beep	Green flash

		Sound Response	Lights Response
	b) Press DEL	Beep	Red flashes, you release DEL
	c) Place finger to be deleted on sensor and wait, no movement	Success: long beep Failure: beep, beep If fingerprint don't exist: Long-short-Long-short beep	Red flashes to signal ready for next fingerprint to be deleted. Repeat (5c) to delete another fingerprint or wait 6 seconds to exit delete common user mode

6) Delete ALL User Fingerprints (except master fingerprints)

Action		Sound Response	Lights Response
	a) Place active master finger on sensor to login	Short beep	Green flash
	b) Press DEL	Beep, you release DEL	Red flashes, you release DEL
	c) Press Do Not Disturb button	Beep, you release "Do Not Disturb"	
	d) Put master finger		
	e) Put master finger again	Success: Long beep	

7) Conference Mode (i.e., disable lock)

The lock is disabled when in conference mode. Remember to re-enable it to secure your room.

Disable Lock

Action		Sound Response	Lights Response
	a) **Hold** Do Not Disturb button		Solid Green
	b) Place Master finger on sensor	Success: Sound of mechanism unlocking, long-short-long-short-long beeps	Green if Master is recognized Failure: Red blinks
		After sound of mechanism unlocking, release both (a) and (b) **immediately**	

Enable Lock

Action		Sound Response	Lights Response
	a) Place Master finger on sensor		Red blinks twice
	b) **Hold** Do Not Disturb button	Success: sound of mechanism locking, beep-beep, you **immediately** release fingers at (a) and (b)	Red blinks twice

8) Setting Electronic Key (Optional)

The Electronic Key is an emergency key to the lock when the lock is disabled because of low battery or fingerprint readings failed for whatever reasons. You can set up to 5 electronic per lock but the lock package comes only with one electronic key. An alternate entry door is preferred over Electronic Key.
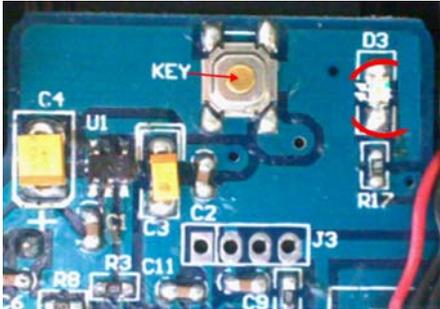
Enable Electronic Key (E-Key)

Action	Sound Response	Lights Response
(a) Remove the 4 screws of the metal plate to expose (c). Plate is at the back of the lock's outside-room half:		
(b) Plug USB connector of E-Key into the bottom socket of the lock		
(c) Press KEY Button and release it when…		… Red light flash (D3)
d) Press button on E-Key, wait 5 seconds …		… then D3 flashes 3 times and then turned off by itself (success). Repeat (a-d) to register another E-Key

Action	Sound Response	Lights Response
Repeat 8a-8c		
 e) Press button on E-Key, wait 5 seconds …		… then D3 turns off (success). Disconnect E-key from lock.

Delete ALL E-Key

Action	Sound Response	Lights Response
Repeat 8a-8c		
 (f) While D3 is on, press the KEY again …		… D3 turns off (success)

9) Open the door with registered Fingerprint

Press one finger on the sensor window, the white light turns on. If the fingerprint is authorized, it emits a sound "Di---" and the white light turns off and Green light flashes one time; the door can then be opened in a 3 seconds window. If the fingerprint is not authorized, then it emits two sounds a sound "Di---".

Note: press the finger against sensor; try to fill the window squarely with fingerprint. Huffing your finger may facilitate recognition of your finger.

10) Initialize

Initialization erases all your entries, i.e., all master and user fingerprints. Do initialization if you want to start anew. Initializing is preferred to deleting all common users (section 5-6).

Press the button of "Don't Disturb button", then "add", "del" at same time, till it emits one sound "Di-" (short) and   "Di---" (long), the green and Red lights will flash, initialization is successful. However, if it emits three sounds "Di-" (short), initialization failed.

Press the "Don't Disturb" button, press the add and del button at same time

11**: Operational Notes**
1. When powering on, it emits a sound "Di---", the Red light and Green light flash: Powering up successfully.
2. When powering on, it emits "Di---" (long), "Di---" (short), "Di---" (long), "Di---" (short), that means failed to connect with Fingerprint Sensor part, test the wiring.
3. When initializing, it emits "Di---" (short), "Di---" (long), and the Green and Red lights flash alternately: Initialization success.
4. When reading the fingerprint, the Red light flashes continually, and signal light do not turns on: Shift your finger on the sensor to retry.
5. If it emits "Di---" (long), "Di---" (short), "Di---" (long), "Di---" (short) when enrolling fingerprints, that means fingerprints storage are full (120 fingerprints limit reached).
6. If it emits "Di---" (long), "Di---" (short), "Di---" (long), "Di---" (short), that means the User Fingerprints have been deleted.
7. If it emits three sounds "Di--- Di--- Di---" when enrolling fingerprints, that means the fingerprint was already enrolled, use another fingerprint.
8. If it emits three sounds "Di--- Di--- Di---" when deleting fingerprints, that means the fingerprint does not exist.
9. If the Green lights keep on while adding fingerprint: Fingerprint data is being collected, press the same finger.
10. If the Red lights keep on while deleting fingerprint: Fingerprint data is being collected, press the same finger.
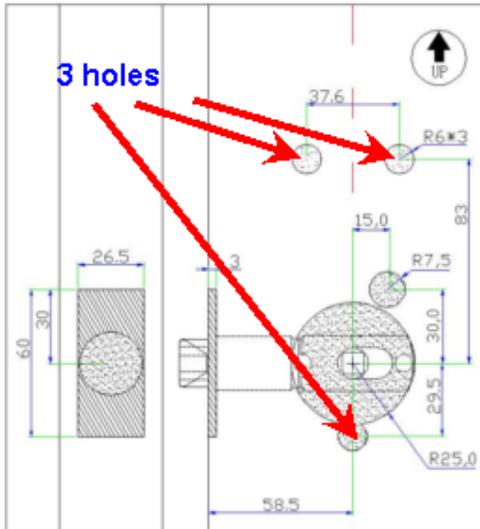
12**: Technical Parameters**

Item	Content
FAR	<0.0001％
FRR	<0.01％
Master Fingerprint	2
User Fingerprint	120
Fingerprint Angle	±180°
Working Voltage	DC 3.7V－4.5V
Low voltage alarm	DC 3.5V－3.6V
Voltage lower than 3.3V	Lock can not work properly
Static Current	7uA
Dynamic Current	200mA
Working voltage of Electronic Key	Four AA batteries, DC 6V
Battery life	Work for 10000 times
After low voltage alarm	Work for 500 times

Ⅱ**: Electrical Parameters:**
Supply Voltage： 6VDC (4 pcs of AA Batteries)
Standby Current： <7uA
Operating Current： 200mA
Operating Temperature： -20 ℃ ~ +75 ℃
Operating Humidity： ＜ 85%
Master Fingerprints： 2
User Fingerprints： 120

III   Installation

Use 5/16" drill for all 3 holes (figure III-a). If the 3 holes are not done perfectly to dimension, consider using 3/8" drill for the upper pair of holes for easier fit of the lock.

Dimension in millimeters (mm)

Lock components (e.g., screws) are metric

Fit door's thickness: 1-3/8" to 1-7/8" (2 different set of screws of different length included for different door thickness)
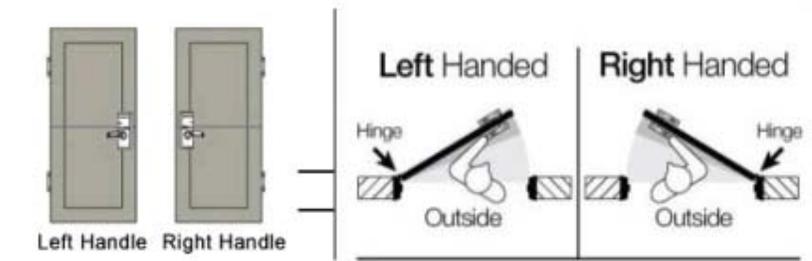
Figure III-a

Figure III-b

Recommendations

1. Ensure there is another door to gain entry should the fingerprint lock is disabled for whatever reasons
2. Register the index finger of both hands, one as a backup in case of smudges on one of the two index fingers
3. Avoid weathering (e.g., prolonged sunlight daily) by adding a plastic flap to cover the fingerprint area or add awnings
4. Locate the electronic key outside the target room (e.g., put it in your car) and make key easily but secretly accessible to you or to the administrator of the lock
5. Test registering some fingerprints from the desk before installing lock into door
6. When disconnecting wires from battery case do not pull on wires (it will break lose eventually), instead, use a flat blade screw driver to dislodge the white plastic connector.

TROUBLESHOOTING

1. Fingerprint not recognized? Huff your finger to moisten/soften skin. Clean your finger. Register a different finger as backup.
2. After unlocking with your fingerprint and turning the outside handle to open the door, try not to hold down the handle because the lock is attempting to relock automatically. Holding down the handle may cause the internal cog to slip when auto-relock is triggered. If you want the door to remain unlock, simply activate Conference mode (see section 7) or leave door ajar.
3. After fingerprint unlocks door, mechanism did not engage. Ensure that the black wire shown in section 8a is not tangled with the mechanism when physically installing the lock onto the door.