



Installation and Operation Manual

(Model : CFS-1800M)

CFS1800M08012005



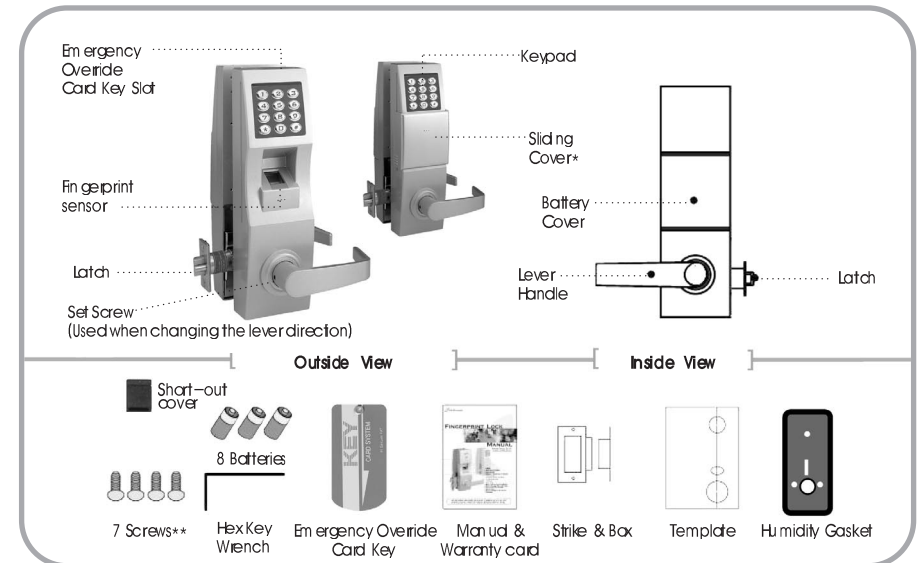
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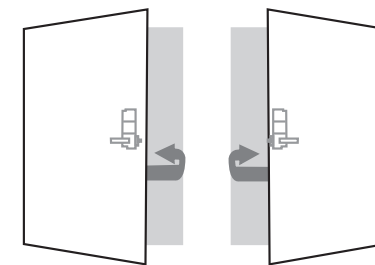
1. Lock and Accessories

1) Package Contents



* The sliding cover of the fingerprint sensor can be taken off depending on user's preference.

** The lock is already held in place with 3 screws. 4 screws are provided in the plastic bag: 2 for the bottom of the lock and the other 2 for the strike.



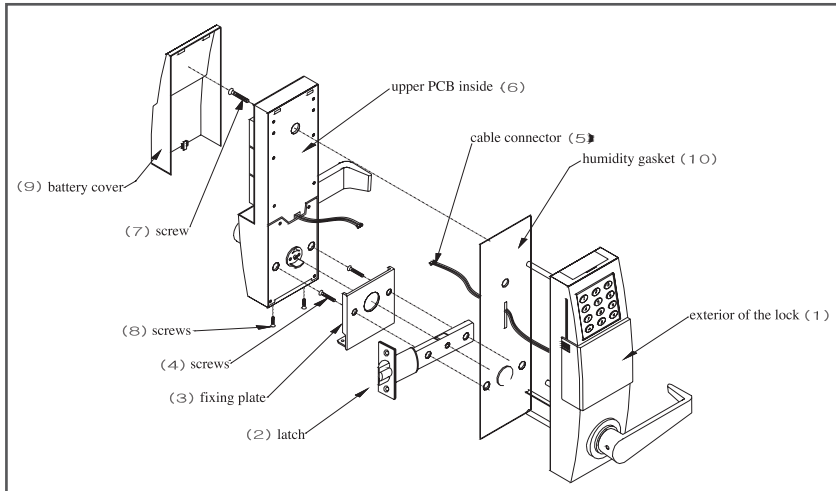
(Left Handed Lever, From Exterior, Door Hinges on the Left Side / Right Handed Lever, From Exterior, Door Hinges on the Right Side)

Please read the manual before using the product. If problems occur or if you need further instruction, please contact Customer Service for more details.

This product can be used for either left or right-handed doors. When changing the direction, loosen the screw on the side of the handle by using the hex key wrench included in the package. Position the handle in the desired direction, and firmly secure the screw.

2. Taking apart the Door Lock

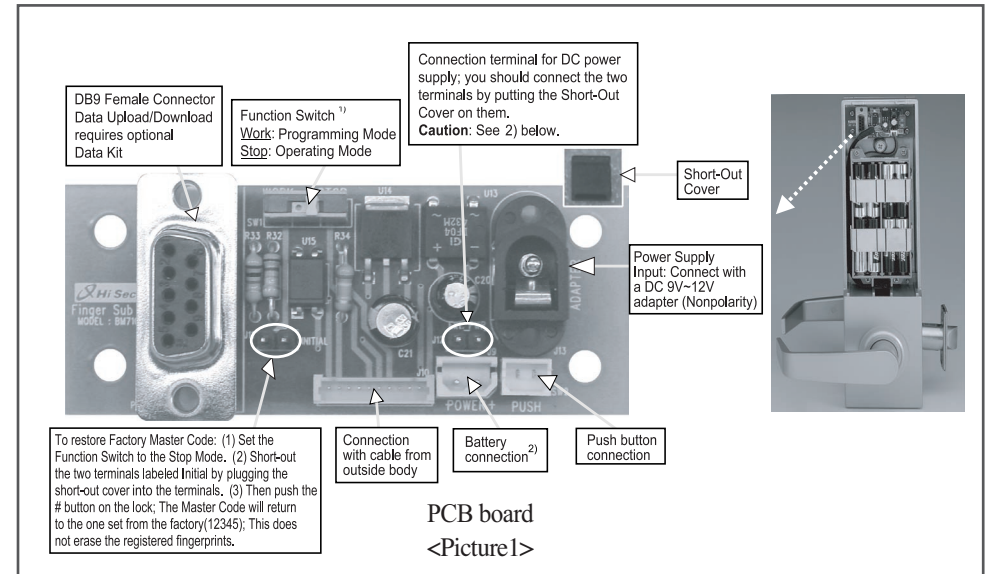
- 1) Remove the battery cover (9) from the unit.
- 2) Unscrew screw (7)-above the battery casing and (8)-the two screws on the bottom of the inside main body.
- 3) Disconnect the connector (5) from the inside of the door lock (above the battery casing).
- 4) Once separated, unscrew the two screws on the fixing plate (3).
- 5) Take the latch (2) completely off of the outer main body.



3. How to Install

- 1) Prepare the door as per attached template. If the door is already prepared for a cylindrical lock, overlay the enclosed template and drill all holes required.
- 2) Insert and secure the latch (2) into the door. Place the Humidity Gasket (10) between the door and lock.
- 3) Attach the exterior portion of the lock (1) into the corresponding holes on the door, insert the driver thru the latch, and the cable (5) thru the gasket and thru the door.
- 4) Install the fixing plate (3) aligned with the lock body and fasten the 2 screws (4). If the lock and plate are not aligned properly, the lock will not function properly. Fasten screws (7) and (8) thru the interior lock body into the outer body and fasten firmly without over-tightening.
- 5) Plug in the cable connector from the outside body to the upper PCB of the inside body (6).
- 6) Remove the two battery fixing plates by sliding them up. Insert batteries. Slide down the plates to return them to their original position.

- 7) Check the handle and lock operation before closing the door.
- 8) Installation is finished. To register fingerprints refer to Part 4, Fingerprint Enrollment and Deletion.



- 1) When you register/delete fingerprints, or set up the Master Code, select the Work Mode. After you finish the setting, select the Stop Mode.
- 2) Use either Battery or DC connections. DO NOT USE BOTH. Using both may cause serious damage to the PCB board.

4. Programming

For programming set up, set the Function Switch to the Work Mode (Refer to picture 1). When the programming is completed, select the Stop Mode. In Stop Mode, no programming is possible, thus avoiding inadvertent deletion of data or programming of the lock.

Use the keypads of the lock to enter in the code sequences underlined.



<Picture2>

4-1. Master Code and User Access Code

1) Master Code Set Up (1 – 10 digits)

(#) → (*) → (Master Code (12345)) → (#) → (0) → (#) → (New Master Code (1-10 digits)) → (#) → (New Master Code again) → (#)

***Note :** Default Master Code is 12345 (Factory Mode).

In case you forget the new Master Code, you can reset the Master Code from the PCB board (Refer to Part 5. Resetting the Master Code)

2) User Access Code Set Up (3–10 digits)

(#) → (*) → (Master Code) → (#) → (1) → (#) → (User Access Code) → (#) → (User Access Code again) → (#)

You can only have 1 User Access Code; If you set a new User Access Code, the previous one will be deleted; You can open the lock with the User Access Code only.

3) Delete the User Access Code

(#) → (*) → (Master Code) → (#) → (2) → (#)

4-2. Fingerprint Enrollment and Deletion

1) Fingerprint Registration

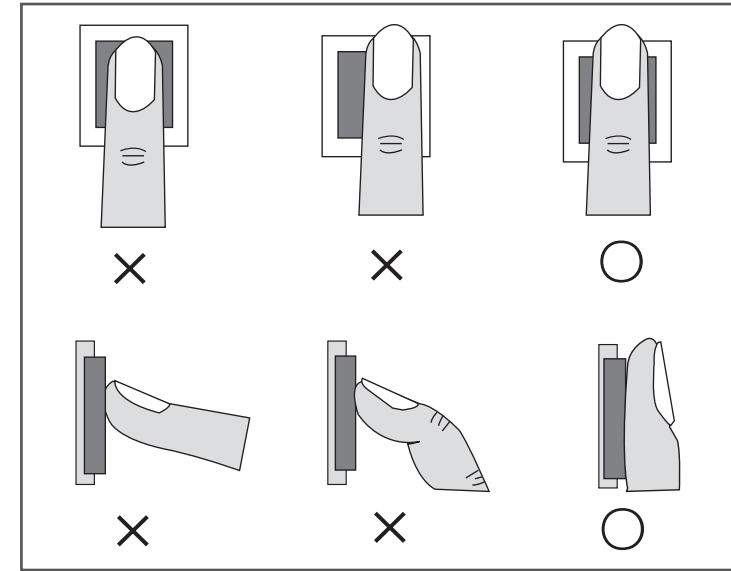
(#) → (*) → (Master Code) → (#) → (4) → (#) → (ID(1-4 digits)) → (#) → (Fingerprint Recognition) → (Voice Prompt (Registration complete))

Example.) When you register a fingerprint using ID number 33(ID number), and the Master Code is 2580 you would enter the following sequence:

(#) → (*) → (2580(Master Code)) → (#) → (4) → (#) → (33) → (#) → (Fingerprint Recognition) → (Voice Prompt (Registration complete))

***Note :**

- When enrolling fingerprints, identify each user with an ID Number (1 to 100 or 1-1000 depending on the lock mode). This number is needed to delete a user in the future, so make sure that you are recording numbers used. The system will inform you by voice prompt if you attempt to enroll a new user on an existing ID number.
- For registration, place finger on the sensor when it lights up the first time. Then remove the finger and place it again on the sensor when it lights up the second time. Vary the position of finger slightly when you present it to the sensor.
- The position of the finger on the sensor must be as shown in the <Fingerprint Placement> picture on page 7.
- Failure to place finger as shown will result in improper enrollment.



<Fingerprint Placement>

2) Delete Single User from Lock

(#) → (*) → (Master Code) → (#) → (5) → (#) → (ID to be deleted) → (#)

***Caution :** FINGERPRINTS WHICH ARE DELETED CANNOT BE RESTORED. Make sure that you use the correct ID number when deleting a user from the lock.

3) Delete All Users from Lock

(#) → (*) → (Master Code) → (#) → (6) → (#)

This will delete ALL Users, but retain the Master Code.

4-3. Mode Setting

1) Lock Mode Set Up

The lock operates in 2 Modes: ID Scan Mode - Up to 1,000 Users with Fingerprint and ID number

Free Scan Mode - Up to 100 Users with Fingerprint Only

ID Scan Mode - Fingerprint + ID Number verification

(#) → (*) → (Master Code) → (#) → (7) → (#)

Free Scan Mode - Only Fingerprint verification

(#) → (*) → (Master Code) → (#) → (8) → (#)

2) Security Level (1~5)

(#) → (*) → (Master Code) → (#) → (9) → (#) → (security level) → (#)

The lock has 5 Security Levels (1 is the lowest, 5 is the highest). Lock is factory initialized to level 3. Higher security levels will result in access being denied more often due to an imperfect read. We recommend that the security level remain in factory mode unless you have very high security requirements. The rate of false reads at level 3 is less than 0.001%.

3) Voice Prompt Mode (0: Voice off, 1: Voice on)

(#) → (*) → (Master Code) → (#) → (12) → (#) → (0 or 1) → (#)

Voice Prompt

Function	Voice guidance
Entering an Invalid PIN	Invalid PIN number
Trying to enroll a user under a PIN already in use	PIN unavailable
Entering an incorrect PIN	Incorrect PIN number
Entering an incorrect Access Code	Password incorrect
Deleting an individual fingerprint	Fingerprint deleted
Delete all fingerprints	All fingerprints deleted
When the registration is complete	Registration complete
Toggle Voice Prompt Mode	Sound Mode off / Sound Mode on
Try to open a door when the door is already open	The door is already open
When batteries are low	Batteries low
Resetting Lock to Initial Factory Mode	System in factory Mode

***Note :** While the Voice prompt is sounding the lock will not accept commands from the Keypad. Wait until the Voice feature is finished “speaking” before you continue to Key in codes or other information.

4) Factory Reset Mode

(#) → (*) → (Master Code) → (#) → (3) → (#)

***Caution :** If you use this function, all registered data is deleted and mode settings are initialized to factory mode.

5) Temporary Unlock Mode

(#) → (*) → (Master Code) → (#) → (20) → (#)

The lock can be stayed unlock for a period of time until the temporary unlock mode is released. At the temporary unlock mode, the door always can be opened without using fingerprint verification.

6) Release Temporary Unlock Mode

→ (Place Enrolled User's Fingerprint & Verify)

To release the Temporary Unlock Mode (set back to the Automatic Locking Mode), press (#) twice and place any enrolled user's fingerprint on the sensor to be verified.

4-4. Audit Trail and Data Upload(Optional Data Kit)

1) Time Input (In 24-Hour Base)

To set the time and date in the lock (which is required only if you are using the optional audit trail function): Time is factory initialized to 00:00:00 AM on January. 1, 2000

(#) → (*) → (Master Code) → (#) → (10) → (#) → (yymmddhhmmss) → (#)

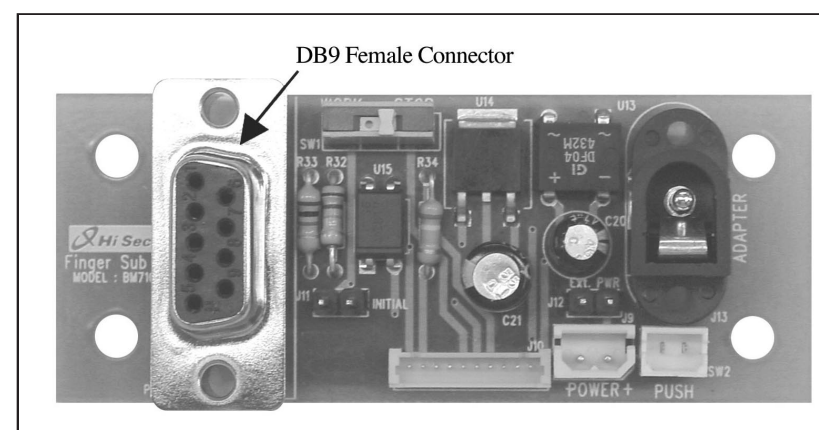
Example) In case of 2:12:15 PM on August 1, 2003 (030801141215)

=> (#) → (*) → (Master Code) → (#) → (10) → (#) → (030801141215) → (#)

2) Audit Trail (Optional)

To download the audit-trail from the lock, you need the Serial Cable and Software included in the Data Kit. Connect the Serial Cable and install the software. Key the following sequence when you are ready to download the audit trail data as indicated in the Data Kit Guide:

(#) → (*) → (Master Code) → (#) → (11) → (#)



<Picture3>

This will download the information to the PC
Please refer to the Data Kit Guide for Data Management Instructions.

3) Data Input Mode (Optional)

Users can be enrolled at a PC and the data uploaded to the lock. To upload the user data to the lock, you need the Fingerprint Reader, Serial Cable and Software included in the Data Kit. Connect the Fingerprint Reader, Serial Cable and install the software. Key the following sequence when you are ready to upload the user data as indicated in the Data Kit Guide:

(#) → (*) → (Master Code) → (#) → (13) → (#)

4-5. Function Code

The following is a list of Function Codes.

Code	Function
0	Master Code Setting
1	User Access Code Setting
2	Delete the User Access Code
3	Factory Reset Mode
4	Fingerprint Registration
5	Delete Single User from Lock
6	Delete All Users from Lock
7	ID Scan Mode
8	Free Scan Mode (Default)
9	Security Level Adjusting
10	Time input Setting
11	Audit Trail Mode (Option)
12	Voice Prompt Mode (0: Voice off 1: Voice on)
13	Data Input Mode (Option)
20	Temporary Unlock Mode

5. Opening the Lock

1) Opening the Lock using the User Access Code

(#) → (User Access Code) → (#)

2) Opening the Lock using Fingerprint Mode

- Free Scan Mode (This is the default mode. Up to 100 Users.)

(#) + (#) + (Apply the fingerprint on the sensor)

When the # button is pushed twice, the sensor light will appear, and the lock will be ready to verify a fingerprint. Once verification is finished, the light turns on and off and a buzzer will sound. After the buzzer sounds the lock may be opened.

- ID Scan Mode (Check user IDs and fingerprint. Up to 1,000 users)

(#) → (#) → (ID(User's ID number which was set when registered)) → (#) → (Apply the fingerprint on the sensor)

After the # button is pushed twice, and the User ID is entered, press # again. The sensor light will appear, and the lock will be ready to verify a fingerprint. Once verification is finished, the light turns on and off and a buzzer will sound. After the buzzer sounds the lock may be opened

***Note :** All input should be done within 5 seconds, after which the lock will time out.

3) Emergency Override Card Key Use

If the lock will not operate with a User Access Code or in Fingerprint Mode, insert the Emergency Override Card Key into the slot at the top of the lock and rotate the lever to open the lock. The Emergency Card Key Bypass works even if the batteries run all the way down.

4) Lock Operation

The lock is normally in the locked position, requiring the use of a Code or Fingerprint to open. The inside trim is always free to allow exit. Before leaving the door, confirm that the door is in fact locked.

5) Resetting the Master Code

In case you forget the master code, you need to reset the master code from the PCB board (refer to Picture 1. in Part 3). Set the Function Switch to the Stop Mode. Short-out the two terminals labeled Initial by plugging the short-out cover into the terminals. Then push the # button on the lock; The Master Code will return to the one set from the factory(12345).

6. Battery Replacement

When batteries are low, the Voice Prompt [Batteries low] will sound when you key (#). Replace the batteries immediately upon receipt of this prompt. When batteries are low, time of the lock is subject to stop. If the batteries are not replaced in time, you may need to use the Emergency Override Card Key to operate the lock.

To replace the batteries, open the battery cover inside the door lock and remove the batteries by lifting the steel fixing plates. Insert eight 1.5V alkaline batteries, keeping polarity in mind. Changing the batteries will not delete registered fingerprints.

*Remember:

- Insert batteries as per indicated polarity (+, -)
- Do not mix brands of batteries
- Do not mix new and used batteries (When replacing make sure you use all new batteries)
- Use only alkaline batteries

7. Emergency Override Card Key

The Emergency Override Card Key has a unique ID number printed on the card surface. You must refer to this number when you want to make extra copies. *For added security you may scrape this number off the card, to avoid unauthorized duplication, but make sure that you record and store the number before you remove it.*

The Emergency Override Card Key is a coded magnet.

The Emergency Override Card Key may damage magnetic stripe cards (Phone Cards, Credit Cards, etc.) if they are stored together. Make sure that at least $\frac{1}{2}$ " separation is maintained.

If a magnet is placed upon the Emergency Override Card Key and rubbed on it, the magnetic code of the key may be erased.

8. Specifications

1) Lock

Functions	Specifications
Electrical power	DC: Adaptor (9~12V) Eight 1.5V Alkaline battery
Fingerprint capacity	100 (Free scan mode - Finger print only) 1000 (ID scan mode - Fingerprint and ID number)
Verification time	1 second or less
Emergency Override Card Key	Magnetic Card Key
Push button	Optional (Hard wiring required)
Keypad verification	Can be toggled on and off. Can be used with or without fingerprint
Backset	2 $\frac{3}{4}$ inches
Latch	UL - ANSI Grade 1
Case Material	Aluminum Die-Casting
Door Thickness	1-3/8" ~ 1-3/4"
Dimension	3-3/16(L) x 3-1/4(W) x 11-1/16(H) inches
Net weight	6.9 lbs.

2) Sensor

Sensor Type	Optical Sensor
CPU	ARM7TDMI, 75 MHz
FLASH	1 MB (extendable)
FRR	< 0.1 %
FAR	0-001 %
Enrollment Time	< 1.0 seconds
Verification Time	< 1.0 seconds
Enrollment Method	1:1 verification; 1:N identification
Template Size	384 bytes
Template Capacity	1000 at 1 MB Flash
Encryption	256 bit AES
Supply Voltage	3.3 V regulated
Power Consumption	160 mA (peak) / 50 mA (idle)
Power-on-Time	< 260 milliseconds

9. Basic Troubleshooting

Problem	Check	Solution
Forgot Access Code	Check with administrator for Access Code records	If no record exists you must register Access Code again(Refer to Part 4-1.)
Forgot Master Code	Check with administrator for Master Code records	Re- Set Master Code, but be careful not to delete registered fingerprints (Refer to Part 5.)
If the lock does not recognize a fingerprint	Was the fingerprint put in the center of the sensor?	Try again by putting the fingerprint in the center of the sensor.
	Is there water or sweat left on the sensor?	Try again after cleaning the surface of the sensor and fingerprint.
If the sensor light does not come on. If the keypad does not work	Check if batteries are dead	Use the Emergency Override Card Key Replace the Batteries
If the Emergency Override Card Key can't be inserted	Did you insert the Emergency Override Card Key too quickly?	Insert the Emergency Override Card Key more slowly
	Is something inside the Emergency Override Card Key slot?	Remove any material in the slot.
If the Emergency Override Card Key does not work	Check if the Emergency Override Card Key is making contact with the magnet and is not damaged	If the magnetic code is deleted because the Emergency Override Card Key came in contact with a magnet, use a duplicate key

