F6-Fingerprint

Access Control/Reader
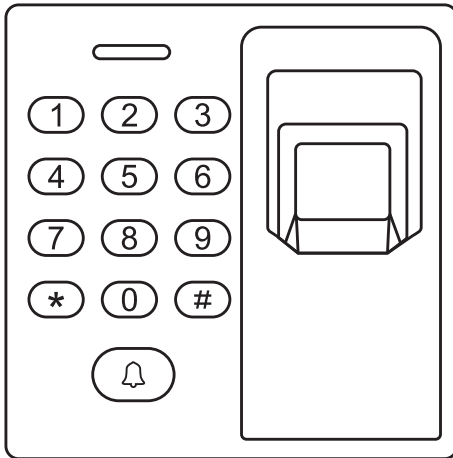
User Manual

F6 - Simplified Instruction	
Function Description	**Operation**
Enter the Programming Mode	∗ **(Master Code) #** (Factory default:1234)
Change the Master Code	**0 (New Master Code) # (Repeat New Master Code) #** (code: 4~8 digits)
Add Fingerprint User	**1 (Fingerprint) (Repeat Fingerprint) #**
Add Card User	**1 (Read Card) #**
Add PIN User	**1 (User ID #) (PIN #) #** (PIN can be any 6~8 digits number)
Delete User	**2 (Fingerprint) #** **2 (Card) #** **2 (User ID #) #**
Exit from the programming mode	∗
How to be granted access	
Fingerprint User	**Input Fingerprint**
Card User	**Read card**
PIN User	**Enter (User ID #) (PIN #)**

INTRODUCTION

F6 is a compact design standalone access control device. It supports fingerprint, card, PIN, which offers users more options for access. The Wiegand interface makes it be able to work as reader to a 3rd party controller. Also it supports downloading and uploading users' information by USB, users needn't be enrolled again if you need to install more devices.
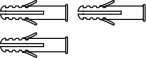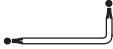
Main Features:
- One relay
- Pulse mode, Toggle mode
- Verification method: Fingerprint, ID card, PIN
- User capacity: 500 fingerprint users, 2000 ID card users, 500 PIN users
- Card interface: 125KHz EM Card/Tag
- PIN length: 6~8 digits
- Support USB flash drive copy fingerprint, card, PIN users information
- Access control interface for 3rd party electric lock, door sensor, exit button, alarm
- Wiegand 26 bits output
- Programmable facility code
- Door bell

Specification

User Capacity	3000
Fingerprint	500
Card	2000
PIN	500
Operating Voltage	**+12V**
Idle Current	60mA
Active Current	100mA
Fingerprint Reader	**Optical Fingerprint Module**
Resolution	500DPI
Identification time	<1S
FAR	<0.0001%
FRR	<0.01%
Proximity Card Reader	**Industry Standard 26 bits**
Radio Technology	125KHz Industry Proximity EM Card
Read Range	2~7 cm
PIN Reader	6~8 digits PIN
Wiring Connections	Relay Output, Exit Button, DOTL, Alarm, Wiegand Output, Door Bell
Communication	**USB for downloading/uploading**

Relay	One (NO, NC, Common)
Adjustable Relay Output Time	1-99 Seconds (5 seconds default)
Lock Output Load	2 Amp Maximum
Alarm Output Load	5 Amp Maximum
Wiegand Interface	Wiegand 26 bits Format Output
Environment	**Indoor**
Operating Temperature	- 20 ~ +50
Operating Humidity	20% RH~ 90% RH
Physical	**ABS Enclosure**
Dimensions	88mm *88mm* 30mm
Unit Weight	350g
Shipping Weight	400g

Carton Inventory

F6 Fingerprint Reader

Diode 1N4007 (For relay circuit protection)

Self Tapping Screws(3X25mm)

Wall Anchors(3X25mm)

USB cable

11 Pin cable

2 Pin cable (Wiegand)

Screw Driver

INSTALLATION
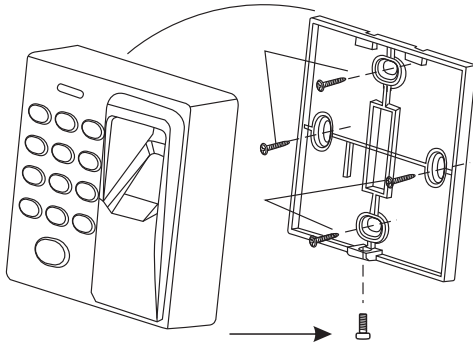

Wiring

Wire Colour	Function	Notes
Basic Stand Alone Wiring		
Red	12V DC	12V DC Regulated Power Input
Black	GND	Ground
Blue	Relay NO	Normally Open Relay Output (install diode provided)
Orange	Relay Common	Common Connection for Relay Output
Purple	Relay NC	Normally Closed Relay Output (Install diode provided)
Yellow	OPEN	Request to Exit (REX) Input
Pass-Through Wiring (Wiegand Reader)		
Green	Data 0	Wiegand Output (Pass-through) Data 0
White	Data 1	Wiegand Output (Pass-through) Data 1
GND	GND	Connect to Controller to stabilize the Wiegand transmit (Optional)
Advanced Input and Output Features		
White	Bell +	Positive Contact for Door Bell
Green	Bell -	Negative Contact for Door Bell
Grey	Alarm Output	Negative contact for Alarm
Brown	Contact Input	Door/Gate Contact Input (Normally Closed)

Connection Diagram

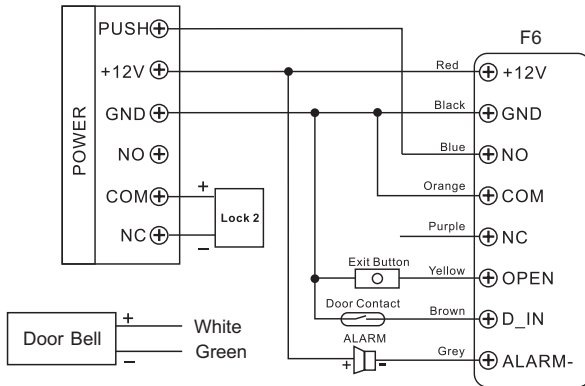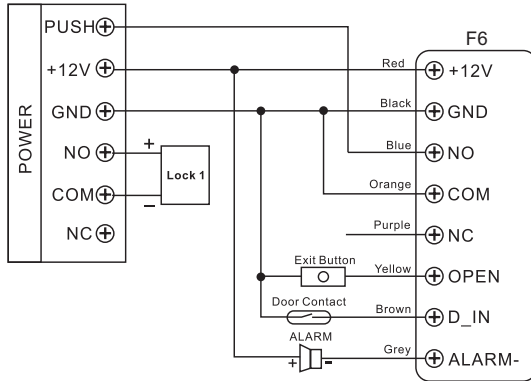Lock 1: Fail-Secure Lock or Door/Gate Operator
Lock 2: Fail-Safe Lock or Magnetic Lock

Common power supply:
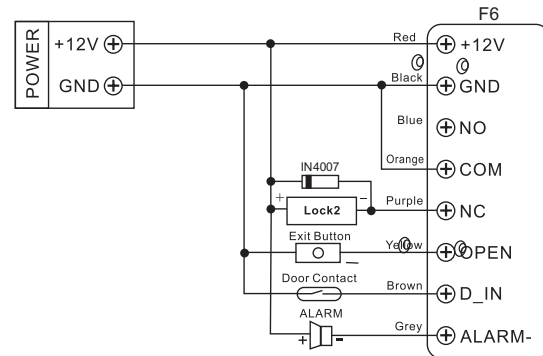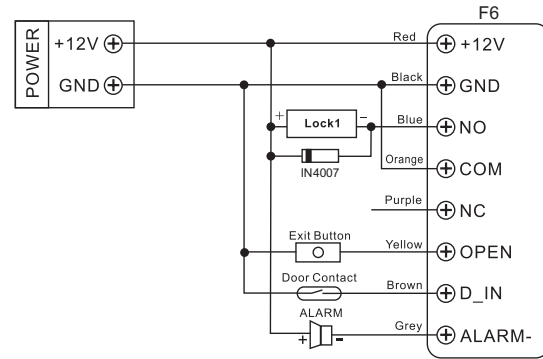
Attention: Install a 1N4007 or equivalent diode is needed when use a common power supply, or the reader might be damaged. (1N4007 is included in the packing)

Access Control Power Supply:

Pass-through: Please check "Others" – No.4 Pass-through Operation

PROGRAMMING

Programming 1 ----------------Program Fingerprints, Cards and PINs

GENERAL PROGRAMMING INFORMATION
· **User ID Number:** Assign a user ID number to the fingerprints, cards, or PINs in order to keep track. The user ID number can be any number from 1~ 9999. User IDs do not have to be proceeded with any leading zeros.
· **IMPORTANT:** The PIN user must use the User ID together with PIN for access.
· **Proximity Card:** Any 125KHz industry standard 26 bits EM Proximity card
· **PIN:** Any 6~8 digits number

ADD USER FINGERPRINT(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) # Factory default: 1234
2. Add Card: Using Auto ID (Allows F6 to assign Fingerprint to next available User ID number) **OR** 2. Add Fingerprint: Select Specific ID (Allows Master to define a specific User ID to associate the fingerprint to)	**1 (Fingerprint) (Repeat Fingerprint) #** Repeat Step 2 for additional user Fingerprints **1 (User ID) # (Fingerprint) (Repeat Fingerprint) #** The user ID of fingerprint is any number from 1~9999
3. Exit	*

ADD USER CARD(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card: Using Auto ID (Allows F6 to assign card to next available User ID number) **OR** 2. Add Card: Select Specific ID (Allows Master to define a specific User ID to associate the card to) **OR** 2. Add Card: by Card Number	**1 (Read Card) #** Repeat Step 2 for additional user cards **1 (User ID) # (Read Card) #** The user ID of fingerprint is any number from 1~9999. 1 (Input 8 or 10 digits Card number #) # **OR** 1 (User ID) # (Input 8 or 10 digits Card number #) #
3. Exit	*

ADD USER PIN(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add PIN: Select Specific ID (Allows Master to define a specific User ID to associate the PIN to)	1 (User ID) # (PIN #) # The user ID is any number from 1~9999 PIN is any 6~8 digits number
3. Exit	*

DELETE USER FINGERPRINT(S) OR CARD(S) OR PIN(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Delete User – By User ID OR 2. Delete User – By Fingerprint/Card	2 (User ID #) # 2(Input Fingerprint)# 2 (Read Card) #
3. Exit	*

PROGRAMMING 2 -------------------------------Configure the F6

Change the configure settings according to your application (optional). Multiple configuration settings can be changed at one time: enter program mode, change desired settings, then exit program mode.

SET MASTER CODE
The 4~8 digits Master Code is used to prevent unauthorized access to the system. To interface with the F6, the Master will need a Master Code (factory default code: 1234).
We highly recommend immediate update and recording of your Master Code.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Update Master Code	0 (New Code) # (New Code) # New master code can be any 4~8 digits number
3. Exit	*

SET RELAY CONFIGURATION
The relay configuration sets the behavior of the output relay on activation.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Pulse Mode OR 2. Toggle Mode	3 (1-99) # The relay time is 1-99 seconds(1 is 50ms) Default is 5 seconds 3 0 # Sets the relay to ON/OFF toggle mode
3. Exit	*

SET DOOR OPEN TOO LONG (DOTL) ALARM
This setting requires an external sensor input.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. DOTL Alarm OFF OR 2. DOTL Alarm ON OR 2. DOTL Timing	4 0 # 4 1 # 5 (1~254) # The DOTL timing can be set to 1-254 seconds. After the door open, it will check the door contact, if the open time beyond the DOTL timing set, it will alarm. Firstly, it is the F6 built-in buzzer beeps; after 30 seconds, the output alarm equipment will alarm
3. Exit	*

SET STRIKE-OUT ALARM
The strike-out alarm will engage after 8 failed fingerprint/card/ PIN attempts in 10 minutes. Factory default is OFF. The strike-out alarm can be set to disengage only after entering a valid fingerprint/card/ PIN.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Strike-Out OFF OR 2. Strike-Out ON	6 0 # (factory default) 6 1 # The buzzer alarms
3. Exit	*

PROGRAMMING 3----------------------------Advanced Application

REGISTER MASTER FINGERPRINT/CARD

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Register Master Add Fingerprint Register Master Delete Fingerprint **OR** Register Master Add Card Register Master Delete Card	**1 * 1 #** Fingerprint **Repeat Fingerprint** **1 * 2 #** Fingerprint **Repeat Fingerprint** **1 * 1 #** Read Card **1 * 2 #** Read Card
3. Exit	*

SYSTEM SETTING

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Reset to Factory Default Delete All Users Delete All Masters	**9 0 #** Reset all setting to factory default. (All users' information will still be retained) **9 1 #** **9 2 #**
3. Exit	*

SET VISUAL RESPONSE

Programming Step	Keystroke Combination	
1. Enter Program Mode	* (Master Code) #	
2. Control LED & Key Backlight **OR** 2. Control Fingerprint Sensor	OFF: 7 0 # (Factory default) OFF: 7 2 #	ON: 7 1 # ON: 7 3 # (Factory default)
3. Exit	*	

OTHERS ━━━━━━

1. Users Operation:

Open the door:

Fingerprint User	Input Fingerprint
Card User	Read Card
PIN User	Input User ID # PIN #

Remove Alarm: Input valid fingerprint, or read valid user card or input User ID # Valid PIN #, or input Master Code #

2. Master Operation (Master Fingerprint / Maser Card)

To Add User by Master Add Fingerprint
Master Add Fingerprint Input User Fingerprint Twice / Read Card Master Add Fingerprint
To Delete User by Master Delete Fingerprint
Master Delete Fingerprint Input User Fingerprint Once / Read Card Master Delete Fingerprint

To Add User by Master Add Card
Master Add Card Input User Fingerprint Twice / Read Card Master Add Card
To Delete User by Master Delete Card
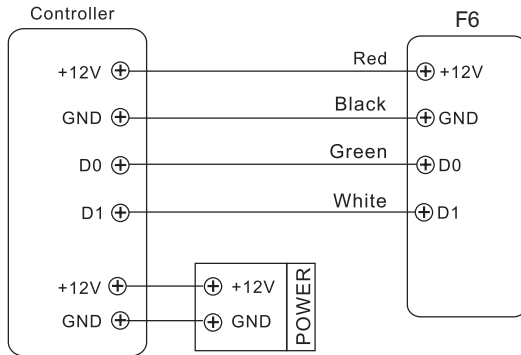Master Delete Card Input User Fingerprint Once / Read Card Master Delete Card

3. Sound and Light Indication

Operation Status	LED	Buzzer
Stand by	Red light shines	–
Enter into programming mode	Red light bright	One beep
In the programming mode	Blue light shine	
Set	Purple light bright	One beep
Operation succeed	Blue light shine	One long beep
Operation error	Red light shine	Three beeps
Exit from the programming mode	Blue light shine	Two beeps
Open lock	Blue light shine	One beep
Alarm	Red light shines quickly	Beeps

4. Pass-Through Operation
F6 can be operated as a Wiegand Output Reader to the Controller.
In this mode, the F6 supports Wiegand 26 bits output, so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bits input. The connection diagram is as below:

Controller

+12V ⊕ ——— Red ——— ⊕ +12V

GND ⊕ ——— Black ——— ⊕ GND

D0 ⊕ ——— Green ——— ⊕ D0

D1 ⊕ ——— White ——— ⊕ D1

F6

+12V ⊕ —— ⊕ +12V
GND ⊕ —— ⊕ GND   POWER

SET DEVICE ID

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Set Device ID	8 (1-255) #
3. Exit	*

Keypad Transmission
The F6 Reader will transmit the PIN data when it receives the last key (#) press after PIN code.
Format: User ID Number
Example: User ID number: 56, PIN code: 123456
Press 56 # 123456#, then the output format will be: 00000056

Fingerprint Transmission
The F6 Reader will transmit the ID number of the fingerprint after the valid fingerprint input.
Format: Device ID + Fingerprint ID Number
Example: Fingerprint ID is 123, the Device ID is set 2
Press the fingerprint, the output format will be: 00200123

Card Transmission
The F6 Reader will transmit the card data when it reads the Card, no matter the card is valid or invalid.
Format: Card Number (8 or 10 digits)

5. Download / Upload Users' information by USB.
F6 can download all the users' information (Fingerprint, Card, PIN) by USB.

Download:
1. Connect the F6 with the Flash Drive or some thing similar by the USB cable provided.
The LED will flash quickly in red
2. Input * Master Code #
The LED will turn in purple, and there will be a long beep, LED shines in blue, means download the users' information successfully.

Upload:
1. Connect the Flash Drive with another F6 (MUST without users' information) by the USB cable.
2. Input * Master Code #
The LED will turn in purple, and there will be a long beep, LED shines in blue, means upload the users' information successfully.