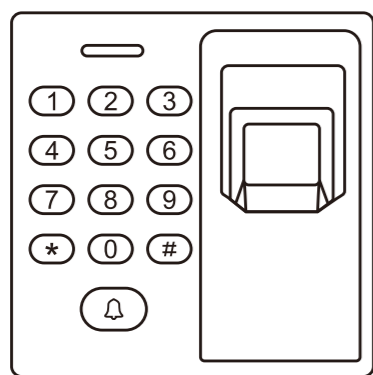# Fingerprint Access Control

User Manual

INTRODUCTION

This is a very very user-friendly device for using. It supports fingerprint, card and PIN, which offers users more choices to enter. The Wiegand interface makes it can work as reader connect with Wiegand 26 bits input controller. Also it supports downloading and uploading the users information by USB, users needn't register piece by piece.
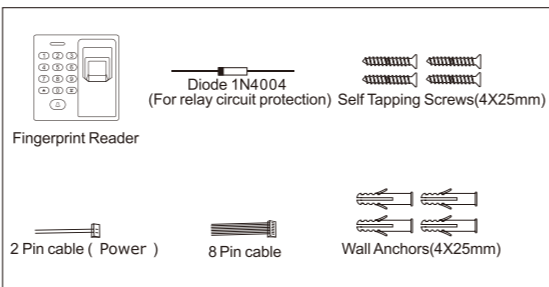
Common Features:
- 1000 users
- One relay
- Pulse mode, Toggle mode
- Verification Method: Fingerprint, Card, PIN
- Card interface: 125KHz EM Card/Tag
- PIN length: 4-6 digits
- Communication: USB flash disk
- Support U disk copy fingerprint, card, PIN users information
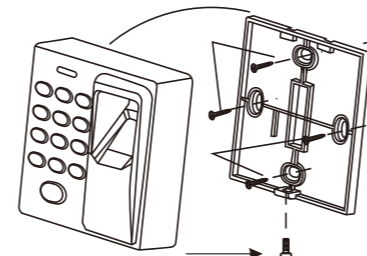- Multi-function device, support Wiegand 26 bits output

Specification

User Capacity	1000	
PIN Capacity	1000	
Card Capacity	1000	
Fingerprint Capacity	2000	
Operating Voltage	+12V	
Idle Current	≤50mA	
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	1~5 cm	
PIN Reader	4~6 digits PIN	
Wiring Connections	Relay Output, Exit Button, Wiegand Output, Door Bell	

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Relay		One (NO, NC, Common)
Adjustable Relay Output Time		0-99 Seconds (3 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
Enclosure		ABS
Dimensions		88*88* 30mm
Unit Weight		175g
Shipping Weight		210g

Carton Inventory

Fingerprint Reader

Diode 1N4004 (For relay circuit protection) Self Tapping Screws(4X25mm)

2 Pin cable（Power） 8 Pin cable Wall Anchors(4X25mm)

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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
Advanced Input and Output Features		
Brown	Bell +	Positive Contact for Door Bell
Grey	Bell -	Negative Contact for Door Bell

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

Common Power Supply:
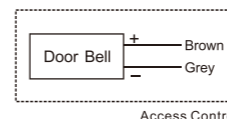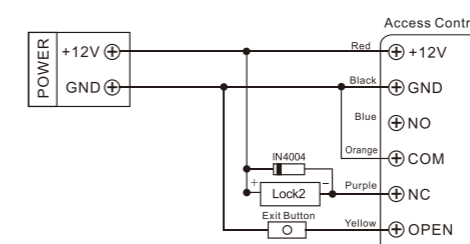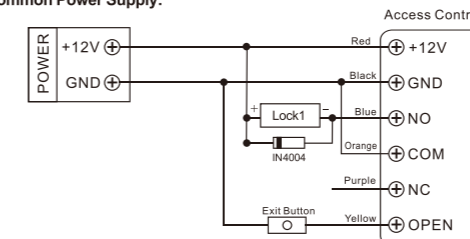
Attention: Install a 1N4004 or equivalent diode is needed when use a common power supply, or the reader might be damaged. (1N4004 is included in the packing)

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Simplified Instruction

Function Description	Operation
Enter the Program Mode	Input (Master Fingerprint / Card) (Please firstly add the Master Fingerprint / card before all the following settings)
Add Fingerprint User	Fingerprint – Repeat Fingerprint (Fingerprints can be added continuously)
Add Card User	Read Card (Cards can be added continuously)
Add PIN User	User ID # PIN # (PIN can be any 4~6 digits number, can add PIN continuously)
Delete User	＊2–Fingerprint ＊2–Read Card ＊2–User ID # (Users can be deleted continuously)
Exit from the Program Mode	Input (Master Fingerprint / Card) again
How to release the door	
Fingerprint User	Input Fingerprint
Card User	Read card
PIN User	PIN #

Access Control Power Supply:

Door Bell Brown Grey

Access Control

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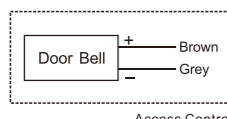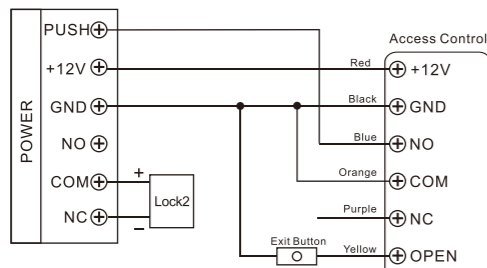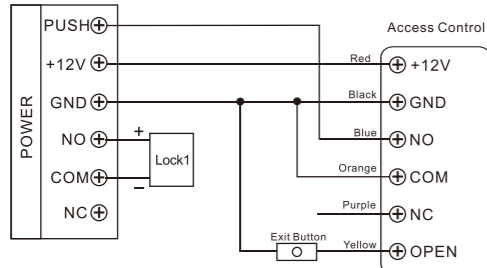
PROGRAMMING

Programming 1 ——Programming Fingerprints, Cards, and PINS
GENERAL PROGRAMMING INFORMATION
- **Master Fingerprint / Card:** Up to 5 Masters, they need to be added firstly, and it will be the only way to enter into programming mode.
- **User ID Number:** Assign a user ID number to the access code in order to keep track of the users. The user ID number can be any number from 1~9999.

IMPORTANT: User IDs do not have to be proceeded with any leading zeros. Recording of User ID is critical. Modifications to the user require the User ID or card be available.

Same ID number can be used for 4 Fingerprints, 1 Card and 1PIN. If delete users by ID number, all users of this ID number will be deleted.
- **Proximity Card:** Any 125KHz industry standard 26 bits EM card.
- **PIN:** Any 4-6 digits number

SET MASTER FINGERPRINT(S) / CARD(S) (UP TO 5 MASTERS)

Programming Step	Keystroke Combination
1. Enter Program Mode	＊ (123456)
2. Add Master Fingerprint OR 2. Add Master Card	＊ 1 (Fingerprint) (Repeat Fingerprint) The Master Fingerprints can be added continuously ＊ 1 (Read Card) The Master Cards can be added continuously
3. Exit	Press #
Note: After Master Fingerprint/Card registered, the default master PIN 123456 will become invalid	

ADD USER FINGERPRINT(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Add Fingerprint: Using Auto ID (Allows 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)	(Fingerprint) (Repeat Fingerprint) Repeat Step 2 for additional user fingerprints (User ID) # (Fingerprint) (Repeat Fingerprint) The user ID of Fingerprint is any number from 1-9999
3. Exit	Input (Master Fingerprint / Card)

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ADD USER CARD(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Add Card: Using Auto ID (Allows 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)	(Read Card) Repeat Step 2 for additional user cards (User ID) # (Read Card) The user ID of Card is any number from 1-9999
3. Exit	Input (Master Fingerprint / Card)

ADD USER PIN(S)

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Add PIN: Select Specific ID (Allows Master to define a specific User ID to associate the PIN to)	(User ID) # (PIN) # The user ID of PIN is any number from 1-9999
3. Exit	Input (Master Fingerprint / Card)

DELETE USER FINGERPRINT(S) OR CARD(S) OR PIN(S)
Method 1:

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Delete User – By User ID OR 2. Delete User – By Fingerprint/Card OR 2. Delete ALL User	＊ 2 (User ID) # ＊ 2 (Input Fingerprint / Card) ＊ 2 (0000) #
3. Exit	Input (Master Fingerprint / Card)

Method 2:

Programming Step	Keystroke Combination
1. Input (Master Fingerprint / Card) Twice within 5 Seconds	
2. Delete User – By User ID OR 2. Delete User – By Fingerprint/Card	(User ID) # Input (Fingerprint / Card)
3. Exit	Input (Master Fingerprint / Card)

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PROGRAMMING 2 --------------------------------Configure the Device
Change the configure settings according to your application (optional).

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

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

RESET the DEVICE:
1. Reset the device with new Master
(It is very helpful when the manager lost Master Card, or people with Master Fingerprint/Card has left)

Power off, press #, hold it, and power on, after 5 seconds, there will be a long beep, means delete the Old Master successfully,then release the button.The Master Code will back to default"*123456". Please change it if necessary.

After the setting, all user information and settings are still retained.

2. Reset to Factory Default

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Reset to Factory Default	＊ 9 0 (All fingerprint/card information will still be retained)
3. Exit	Press #

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DELETE ALL USERS and MASTERS
(Be careful with this step)

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Delete All Users and Masters	＊ 9 1
3. Exit	Press #

DELETE MASTERS (Master Fingerprint / Card)

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. To Delete Master Fingerprint / Card	＊ 9 2
3. Exit	Press #

Download/upload Users' information by USB
This device can download/upload all the users' information (Fingerprint, Card, PIN) by USB.
Download:
1. Connect the device with the Flash Drive or some thing similar by the USB cable provided. The LED will flash in blue.
2. Input (Master Fingerprint/Card)
The LED will turn in blue, and there will be a long beep, means download the users' information successfully.

Upload:
1. Connect the Flash Drive with another device (MUST without users' information) by the USB cable.
2. Input (*123456)
The LED will turn in blue, and there will be a long beep, means upload the users' information successfully.

OTHERS
1. Users Operation
Open the door

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

Remove Alarm: The Master Fingerprint/Card, or any valid users.

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2. Sound and Light Indication

Operation Status	LED	Buzzer
Stand by	1 Red flash / 10 seconds	—
Enter into programming mode	Red Steady	One beep
In the programming mode	Blue/Purple Steady	One beep
Operation succeed	1 Blue flash	One long beep
Operation error	1 Red flash	Three beeps
Exit from the programming mode	—	One beep
Open lock	1 Blue flash	One beep

3. Pass-Through Operation
This device can be operated as a Wiegand Output Reader to the Controller. In this mode, the device supports Wiegand 26 bits output, so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bits input.

PIN User: Output is PIN number
Card User: Output is card number
Fingerprint User: Output is user ID number

The connection diagram is as below:

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