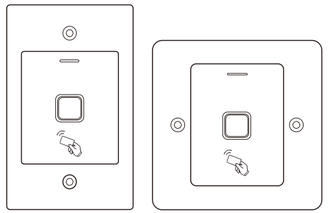
Embedded Fingerprint Access Control



Rectangle

Square

User Manual

INTRODUCTION

The device is a metal standalone fingerprint access control, support 125KHz EM card. It is an easy to operate device, designs in 8 wires for mounting, with user-friendly programming.

The device is embedded design with metal plate. It supports up to 100 fingerprint users and 900 card users, it equips with an infrared remote control and master card for easy operation.

Main Features:

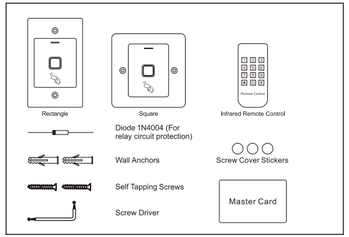
> Metal case, embedded design
> Waterproof, conforms to IP66
> One programming relay output
> Multi-color LED Status Display
> 1000 Users (100 Fingerpint Users + 890 Card Users + 10 Visitor Users)
> Latch Mode to hold door or gate open
> Wiegand 26 bits output
> Wiegand 26/34 bits input automatic identification

Specifications:

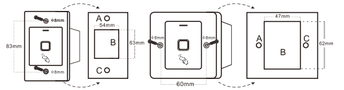
User Capacity Fingerprint Users Card Users Visitor Users	**1000** 100 890 10
Operating Voltage Idle Current Active Current	**12-18V DC±10%** ≤30mA ≤150mA
Fingerprint Reader Resolution Identification Time FAR FRR	**Capacitive Fingerprint Module 500DPI** ≤1S <1% <0.001%
Proximity Card Reader Radio Technology **Read Range**	**EM** 125KHz 0-6cm
Wiring Connections	Relay Output, Exit Button, Wiegand(in/out)

Relay Adjustable Relay Output Time Lock Output Load	**One (NO, NC, Common)** 0-99 Seconds (5 seconds default) 2 Amp Maximum
Environment Operating Temperature Operating Humidity	**Meets IP66** -25℃~60℃ (-13℉~140℉) 0%-98%
Physical Color Dimensions Unit Weight Shipping Weight	**Stainless Steel Plate** Silver & Black 115*70*25mm(Rectangle) 86*86*25mm(Square) 245g 285g

Carton Inventory



INSTALLATION



Wiring

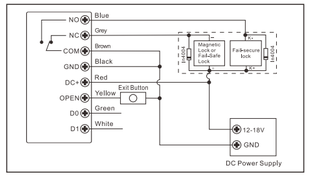
Colour	Function	Notes
Red	Power +	12~18 Votes DC Regulated Power Input
Black	GND	Ground
Blue	NO	Normally Open Relay Output
Brown	COM	Common Connection for Relay Output
Grey	NC	Normally Closed Relay Output
Yellow	OPEN	Request to Exit input(REX)
Green	D0	Wiegand Input/Output Data 0
White	D1	Wiegand Input/Output Data 1

Sound and Light Indication

Operation Status	LED	Finger Sensor Light	Buzzer
Stand by	Red light bright	Off	-
Enter into programming mode	Red light shines	Off	One beep
In the programming mode	Orange light bright	-	One beep
Operation error	-	-	Three beeps
Exit from the programming mode	Red light bright		One beep
Open lock	Green light bright	Off	One beep
Alarm	Red light Shines quickly	Off	Beeps

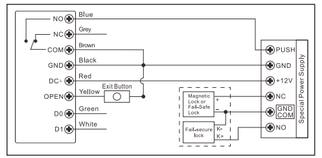
Connection Diagram

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)

Access Control Power Supply



STANDALONE MODE

GENERAL PROGRAMMING INFORMATION

>User ID Number: Assign a user ID number in order to keep track of the users of access fingerprints or cards. The user ID number can be any number from 0~999, 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.

Remark: Fingerprint User ID: 0~98
Master Fingerprint User ID: 99
Card User ID: 100~989
Visitor User ID: 990~999

>Proximity Card :
Any 125KHz industry standard 26bits EM proximity card

Set Master Code

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #** (Factory default is 123456)
2. Update Master Code	**0 (New Master Code) # (Repeat New Master Code) #** (Master code is any 6 digits)
3. Exit Program Mode	*

Add Master Fingerprint by Specific ID (ID Number: 99)

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Add Master Fingerprint	**1 (99) # (Fingerprint)(Repeat Fingerprint)(Repeat Fingerprint again)**
3. Exit	*

Add Fingerprint Users by Auto ID
(Allows the device to assign Fingerprint to next available User ID, ID number is 0~98)

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Add Fingerprint	**1 (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again)** Fingerprints can be added continuously
3. Exit	*

Add Fingerprint Users by Specific ID
(Allows Master to define a specific ID to the fingerprint, ID number is 0~98)

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Add Fingerprint	**1 (User ID) # (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again)** Fingerprints can be added continuously
3. Exit	*

Add Card Users by Auto ID
(Allows Master to assign Card to next available User, ID number is 100~989)

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Add Card : by Reading Card	**1 (Read Card)** Cards can be added continuously
3. Exit	*

Add Card Users by Specified ID
(Allows Master to define a specific ID to the Card, ID number is 100~989)

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**

Simplified Instruction	
Function Description	**Operation**
Enter the Programming Mode	*** - 123456 - #** then you can do the programming (123456 is the default factory master code)
Change the Master Code	**0 - New code - # - Repeat the New Code - #** (code: 6 digits)
Add Fingerprint User	**1 - Fingerprint - Repeat Fingerprint - Repeat Fingerprint Again - #**
Add Card User	**1 - Read Card** (can add cards continuously)
Delete User	**2 - Fingerprint - #** **2 - Read Card** **2 - User ID - #** (can delete users continuously)
Exit from the Programming Mode	*
How to release the door	
Fingerprint User	Input Fingerprint
Card User	Read Card

2. Add Card : by User ID	**1 (User ID) # (Read Card)** Cards can be added continuously
3. Exit	*

Delete Users

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code)#**
2. Delete Fingerprint: by Fingerprint OR 2. Delete Card: by Reading Card OR 2.Delete Card or Fingerprint : by ID number OR 2. Delete ALL Users	**2 (Input Fingerprint)** Fingerprints can be deleted continuously **2 (Read Card)** Cards can be deleted continuously **2 (User ID) #** **2 (0000) #** (Master Fingerprint User will be Deleted when Delete All Users)
3. Exit	*

Master Fingerprint/ Card Usage

Using Master Fingerprint/ Card to add and delete users	
Add Fingerprint / Card	1. Input **(Master Fingerprint/ Card)** 2. Input **(Fingerprint three times)** or **(Card)** Repeat step 2 for additional users 3. Input **(Master Fingerprint/ Card) again**
Delete Fingerprint / Card	1. Input **(Master Fingerprint/ Card Twice within 5s)** 2. Input **(Fingerprint)** or **(Card)** Repeat **step 2 for additional users** 3. Input **(Master Fingerprint/ Card) again**

Visitor User Setting (For card user only)
There are 10 groups Visitor card available,the users can be specifed up to 10 times of usage,after a certain number of times, i.e. 5 times,the card becomes invalid automatically.

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Add Visitor Card User OR 2. Delete Visitor User by ID Number OR 2. Delete Visitor User by Read Card	**8 (0~9 #)(User ID #)(Read Card))** **2 (User ID #)** **2 (Read Card)**
3 Exit	*

Note:
Number of time is 0~9,0=10 times, User ID number must be any number between 990~999, Visitor card must be unique ,should be distinguished from common card

Set Access Mode

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2.Card or Fingerprint Access OR 2. Fingerprint Only OR 2. Card Only	**3 0 # (Factory Default)** **3 1 #** **3 2 #**
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. Latch Mode	**4 (1-99) # (Factory default)** The relay time is 1-99 seconds (Factory default: 5 seconds) **4 0 #** Sets the relay to ON/OFF latch mode
3. Exit	*

Set Alarm

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Set alarm time	**5 (0~3) #** Factory default is 1 minute
3. Exit	*

Set Strike-out Alarm
The strike-out alarm will engage after 10 failed Card/Fingerprint attempts, factory default is OFF, it can be set to deny access for 10 minutes or enable alarm after engaging.

Programming Step	Keystroke Combination
1. Enter Program Mode	*** (Master Code) #**
2. Strike-out OFF OR	**6 0 #** (factory default)
2. Strike-out ON OR 2. Strike-out ON	**6 1 #** Access will be denied for 10 minutes **6 2 #** Enable alarm, need enter Valid Card/Fingerprint to silence
3. Exit	*

WIEGAND MODE

Pass-through Mode

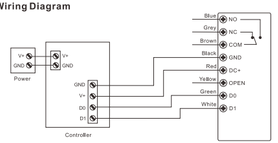
(The device Operates as a Wiegand Output Reader)
In this mode the device supports a Wiegand 26 bits output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bits input, and then the device will operate as a slave reader.

Fingerprint Users Transmission Format

1) Add fingerprint on device
2) Operate the controller enter into adding card users, then read this added fingerprint on the device, this fingerprint's corresponding User ID will generate a virtual card number and send to the controller.

Example: User ID is 2 for the added fingerprint, the output will be 00000002

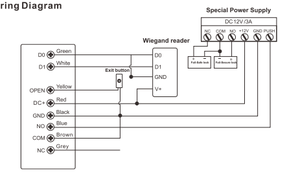
Wiring Diagram



Controller Mode

(The device Operates as a Controller)
It supports Wiegand 26/34 bits input (Automatic Identification), so an external Wiegand device with 26/34 bits output can be connected to the Wiegand input terminals on the device. Either an EM card reader (125 KHz) or an Mifare card reader (13.56MHz) can be connected to the device.
Cards are required to be added at the external reader, except where an external EM card Reader is used, in this case cards can be added at either reader or controller.

Wiring Diagram



OTHERS

Users Operation & Reset to Factory Default
> Open the door : Read valid user card or input valid fingerprint

> Remove Alarm :
Read valid user card or input valid fingerprint or input Master Code # or Master Fingerprint or read Master Card

> To reset to factory default & Add Master Card/ Fingerprint:
①Power off, press the exit button, hold it and power on, there will be two beeps, then release the exit button, the LED light turns into yellow, then read any 125KHz EM card and input any fingerprint three times, the LED will turn into red, means reset to factory default successfully. Of the card reading, it is the Master Card, and the fingerprint is the Master Fingerprint.
②If only add Master Card or Master Fingerprint, after reading card or input three times fingerprint, press the * button to finish reset.
③If no Master Card or Master Fingerprint added, must press the Exit Button for at least 5 seconds before release. (This will make the previous registered Master Card invalid, but previous registered Master Fingerprint still valid.)

Remarks: Reset to factory default, the user's information is still retained.

Notes