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**INTRODUCTION**

The device is a single door multifunction standalone access controller or a Wiegand output reader. It uses ARM7 MCU assuring stable performance. The operation is very user-friendly, and low-power circuit makes it long service life.

The device supports 1,000 users (988 common users + 2 panic users + 10 visitor users), all user data can be transferred from one to another. It supports multi access modes: 1 card access, PIN access, card + PIN access, multi cards/PINs access. It has extra features including block enrollment, interlock, Wiegand input & output interface...etc.

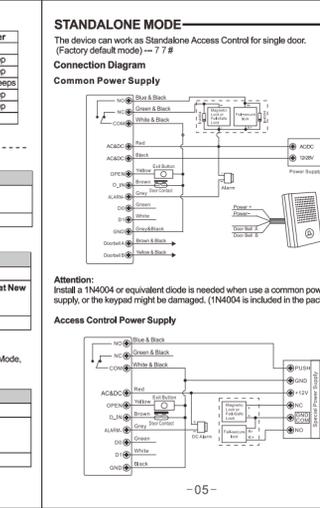
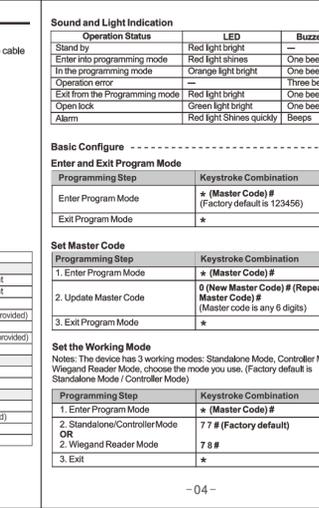
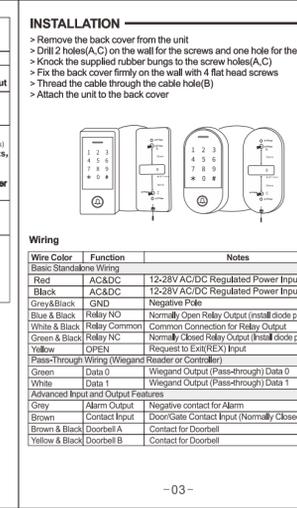
Two Versions Optional:  
The device with Bluetooth function is optional.  
The device with big user capacity is optional.

**Features**

- > Touch key
- > Metal case, anti-vandal
- > Waterproof, conforms to IP66
- > One relay, 1,000 users (988 common + 2 panic + 10 visitor)
- > PIN length: 4-6 digits
- > EM card, Mifare Card optional
- > EM card version: Wiegand 26-44 bits input & output
- > Mifare card version: Wiegand 26-44bits, 56bits, 58bits input & output
- > Can be used as Wiegand reader with LED & buzzer output
- > Card block enrollment
- > Tri-color LED status display
- > Integrated alarm & buzzer output
- > Pulse mode, Toggle mode
- > User data can be transferred
- > 2 devices can be interlocked for 2 doors
- > Built-in light dependent resistor (LDR) for anti tamper
- > Backlit keypad, can set automatic OFF after 20 seconds

**Specifications**

User Capacity	1000
Common User	988
Panic User	2
Visitor User	10
Operating Voltage	12-26V AC/DC
Working Current	≤150mA
Idle Current	≤60mA



**Programming**

Programming will be varied depending on access configuration. Follow the instructions according to your access configuration.

**Notes:**

- > **User ID number:** Assign a user ID to the access card / PIN in order to track it.
- The Common User ID: 0-987  
Panic User ID: 988-989  
Visitor User ID: 990-999

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

> **Proximity Card:**  
Proximity Card: 125KHz; EM card or 13.56MHz; Mifare card

> **PIN:** Can be any 4-6 digits except 8888 which is reserved.

**Add Common Users**

PIN Card user ID: 0-987; PIN length: 4-6 digits except 8888

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card	1 (User ID) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (PIN) #
3. Exit	*

**Add Panic Users**

User ID number is 988, 989; PIN length: 4-6 digits except 8888

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card	1 (User ID) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (PIN) #
3. Exit	*

**Add Visitor Users**

User ID number is 990-999; PIN length: 4-6 digits except 8888

There are 10 groups Visitor PIN card available, the users can be specified up to 10 times of usage, after a certain number of times, i.e. 5 times, the PIN card become invalid automatically.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card	1 (User ID) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (PIN) #
3. Exit	*

**Add PIN User**

2. Using Auto ID (Allows the device to assign PIN to next available User ID number)  
OR  
2. Select Specific ID (Allows manager to define a specific User ID to associate the PIN to)

1 (PIN) #  
1 (User ID) # (0-9) # (Read Card) / (Input 8/10/17 Digits Card Number) #  
1 (User ID) # (PIN) #

**Tips for PIN Security (Only valid for 6 digits PIN):**

For higher security we allow you to hide your correct PIN with other numbers up to a max of 10 digits.

Example PIN: 123434  
You could use \*(123434)\* \*\* or \*(123434)\*  
(\* can be any numbers from 0-9)

**Add Panic Users**

User ID number is 988, 989; PIN length: 4-6 digits except 8888

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card	1 (User ID) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (PIN) #
3. Exit	*

**Delete Users**

1. Enter Program Mode  
2. Delete User - By ID number  
OR  
2. Delete User - By Card number  
OR  
2. Delete ALL Users

\* (Master Code) #  
2 (User ID) #  
2 (Input 8/10/17 Digits Card Number) #  
2 (Master Code) #

**Change PIN Users (PIN length: 4-6 digits except 8888)**

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card	1 (User ID) # (Old PIN) # (New PIN) # (Repeat New PIN) #
OR	
2. Add PIN	1 (User ID) # (Old PIN) # (New PIN) # (Repeat New PIN) #
3. Exit	*

**Delete Users**

1. Enter Program Mode  
2. Delete User - By ID number  
OR  
2. Delete User - By Card number  
OR  
2. Delete ALL Users

\* (Master Code) #  
2 (User ID) #  
2 (Input 8/10/17 Digits Card Number) #  
2 (Master Code) #

**Set Relay Configuration**

The relay configuration sets the behaviour of the output relay on activation.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
OR	
2. Pulse Mode	3 (1-99) # (factory default)
OR	
2. Toggle Mode	3 (The relay time is 1-99 seconds. (Default is 5 seconds))
3. Exit	*

**Set Access Mode**

For Multi user access mode, the interval time of reading can not exceed 5 seconds, or else, the device will exit to standby automatically.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Card Access	4 0 #
OR	
2. PIN Access	4 1 #
OR	
2. Card + PIN Access	4 2 #
OR	
2. Card or PIN Access	4 3 (factory default)
OR	
2. Multi User Access	4 3 (2-9) # (Only after 2-9 valid users, the door can be opened)
3. Exit	*

**Set Strike-out Alarm**

The strike-out alarm will engage after 10 failed entry attempts (Factory is OFF). It can be set to deny access for 10 minutes after engaging or disengage only after entering a valid card/PIN or Master code / case.

**Simplified Instruction**

Function Description	Operation
Enter the Programming Mode	* (Master Code) # Then you can do the programming (123456 is the factory default master code)
Change the Master Code	0 - New Code - # - Repeat the New Code - # (code: 6 digits)
Add Card User	1 - Read Card - # (can add cards continuously)
Add PIN User	1 - PIN - # (The PIN is any 4-6 digits except 8888 which is reserved)
Delete User	2 - Read Card - # 2 - PIN - #
Exit from the Programming Mode	*
How to release the door	1 - Press FingerPrint A or (PIN #)
Card User	Read Card
PIN User	Input PIN #

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Strike-Out OFF	6 0 # (factory default)
OR	
2. Strike-Out ON	6 1 # (Access will be denied for 10minutes (Exit button is still workable))
2. Strike-Out ON (Alarm)	6 2 #
Set Alarm Time	5 (0 - 3) # (factory default is 1 minute) Enter Master Code or Master Card or valid user card/PIN to silence
3. Exit	*

**Set Door Open Detection**

**Door Open Too Long (DOTL) Detection**

When use with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened normally, but not closed after 1 minute, the inside buzzer will be automatically to remind people to close the door. The beep can be stopped by closing the door, master users or valid users, or else, it will continue to keep the same time with the alarm time set.

**Door Forced Open Detection**

When use with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened by force, the inside buzzer and external alarm (if there is) will both operate, they can be stopped by master users or valid users, or else, it will continue to sound the same time with the alarm time set.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Disable Door Open Detection	6 3 # (factory default)
OR	
2. Enable Door Open Detection	6 4 #
Set Alarm Time	5 (0 - 3) # (factory default is 1 minute)
3. Exit	*

The function of Set Alarm Time also apply for anti-tamper alarm

**Set Audible and Visual Response**

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Disable Sound	7 0 #
OR	
2. Enable Sound	7 1 # (factory default)
2. LED Always OFF	7 2 #
OR	
2. LED Always ON	7 3 # (factory default)
2. Keypad Backlit Always OFF	7 4 #
OR	
2. Keypad Backlit Always ON	7 5 #
2. Automatic OFF after 20 seconds, it will go ON by pressing any key (this key isn't taken into consideration)	7 6 # (factory default)
3. Exit	*

**Master Card Usage**

Using Master Card to add and delete users

Add Card/PIN Users

- Input (Master Code)
- Input (Card) or (PIN #)
- Repeat step 2 for additional users
- Input (Master Code) again

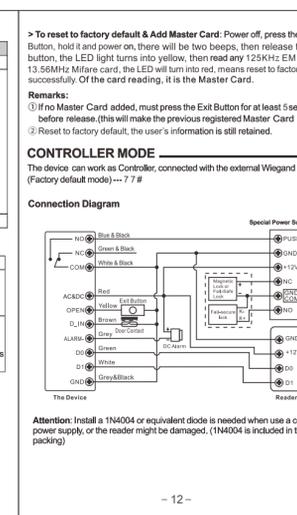
Delete Card/PIN Users

- Input (Master Code Twice within 5s)
- Input (Card) or (PIN #)
- Repeat step 2 for additional users
- Input (Master Code) again

**Users Operation & Reset to Factory Default**

> **Open the door:** Read valid user card or input valid user PIN #

> **Remove Alarm:** Enter Master Code # or Master Card or valid user card / PIN



**Set Wiegand Input Formats**

Please set the Wiegand input formats according to the Wiegand output format of the external Reader.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Wiegand Input Bit	EM Card Version: 8 (26-44) # (factory default is 26bits) Mifare Card Version: 8 (26-44, 56, 58) # (factory default is 34bits)
3. Disable Parity Bit	8 0 #
OR	
3. Enable Parity Bit	8 1 # (factory default)
4. Exit	*

**Note:** For connecting Wiegand readers with 32, 40, 56 bits output, need disable parity bits.

**Programming**

**Basic Programming is the same as Standalone Mode**

> **There are some exceptions for your attention:**

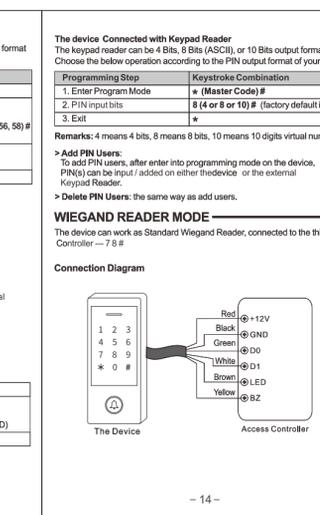
**The device Connected with External Card Reader**

- If EM/Mifare card reader: users can only be added/deleted on either the device or external reader.
- If HID card reader: users can only be added /deleted on external reader.

**The device Connected with Fingerprint Reader**

For example:  
Connect SF1 as the fingerprint reader to the device.  
Step 1: Add the Fingerprint (A) on SF1 (Please refer to SF1 manual)  
Step 2: Add the same Fingerprint(A) on the device:

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
OR	
2. 1 (Press Fingerprint A once on SF1) # (ID auto allocated)	
OR	
2. 1 (User ID) # (Press Fingerprint A on SF1) # (Select specific ID)	
3. Exit	*



**The device Connected with Keypad Reader**

The keypad reader can be 4 Bits, 8 Bits (ASCII), or 10 Bits output format. Choose the below operation according to the PIN output format of your reader.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. PIN input bits	8 (4 or 8 or 10) # (factory default is 4 bits)
3. Exit	*

**Remarks:** 4 means 4 bits, 8 means 8 bits, 10 means 10 digits virtual number.

> **Add PIN Users:** After enter into programming mode on the device, PIN(s) can be input / added on either the device or the external Keypad Reader.

> **Delete PIN Users:** the same way as add users.

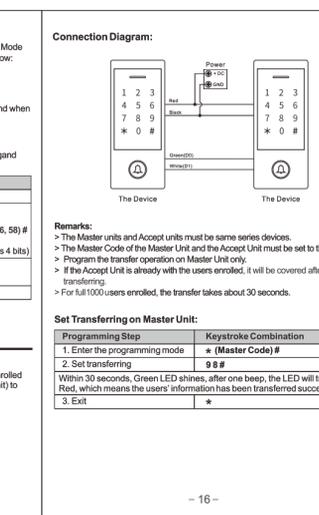
**Set Wiegand Output Formats**

Please set the Wiegand output formats of Reader according to the Wiegand input formats of the Controller.

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Wiegand output bits	EM Card Version: 8 (26- 44) # (factory default is 26bits) Mifare Card Version: 8 (26- 44, 56, 58) # (factory default is 34bits) 8 (4 or 8 or 10) # (factory default is 4 bits)
3. Disable Parity Bit	8 0 #
OR	
3. Enable Parity Bit	8 1 # (factory default)
4. Exit	*

**Note:** For connecting Wiegand controller with 32, 40, 56 bits input, need disable parity bits.



**Interlock**

The device supports the Interlock Function. It is of two devices for two doors, and mainly used for banks, prisons, and other places where a higher level security is required.

**Connection Diagram:**

**Remarks:** The Door Contact must be installed and connected as the diagram.

**Step 1:** Enroll the users on Device A, then transfer the users' information to Device B by "User Information Transfer" function.

**Step 2:** Set both of the two Devices (A and B) to Interlock function

**Programming Step**

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Disable Interlock	9 0 # (factory default)
OR	
2. Enable Interlock	9 1 #
3. Exit	*

If enable interlock, when and only door 2 is closed, the user can read the valid fingerprint/card or input PIN on Reader A, door 1 will open; then when and only door 1 closed, read valid fingerprint/card or input PIN on Reader B, door 2 will open.

