



MA500 Access Control

Installation Guide & User Manual

Important Announcement

Document Privacy Note:

Firstly thank you for purchasing the product. Before use, please read this manual carefully to avoid the unnecessary damage! The company reminds you that the proper user will improve the use affect and authentication speed.

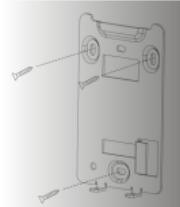
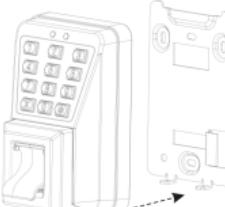
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1. Equipment Installation

Wall mount installation

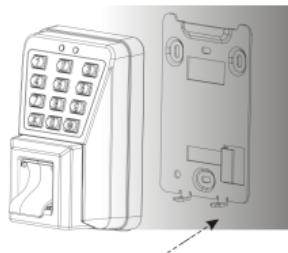


(1) Paste the mounting template on the wall. Drill the holes according to the marks on the template (holes for screws and wiring).

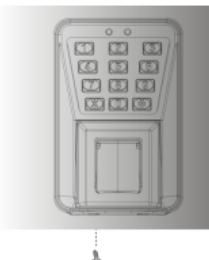
(2) Remove the screws on the bottom of device.

(3) Take away the back plate.

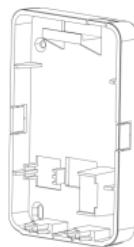
(4) Fix the back plate on the solid wall according to the mounting paper.



(5) Fix the device to the back plate.

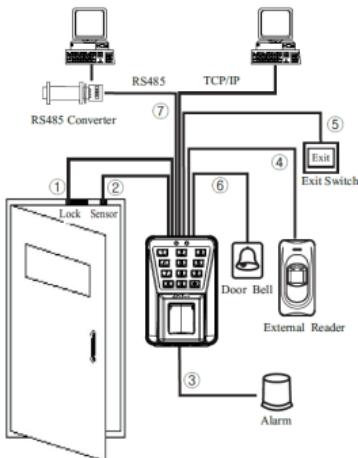


(6) Tighten the screws at the bottom of device.



Note: If not suitable for drilling on the hollow wall, please select a plastic box instead of iron plate, and from all around for wiring.

2. Structure and Function



Access Control System Function:

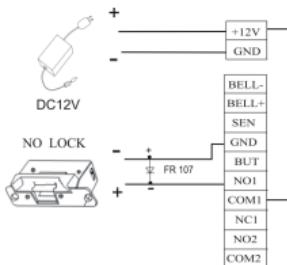
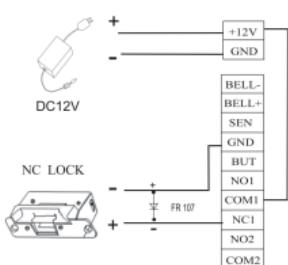
- (1) If a registered user verified, the device will trigger the lock control relay to open the door.
- (2) The door sensor will detect the on-off state. If the door is unexpected opened or improperly closed, the alarm relay will be triggered.
- (3) If the device is illegally removed, the alarm relay will be triggered.
- (4) External card reader is supported.
- (5) External exit button is supported.
- (6) External door bell is supported.
- (7) Supports RS485, TCP/IP communication to be able to connect with a PC. One PC can manage multiple devices.

3. Lock Connection

⚠ Warning: No operation when power on!

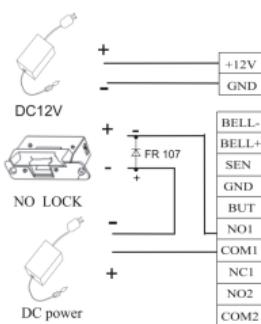
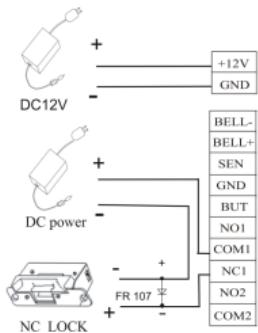
- (1) The system supports NO LOCK and NC LOCK. You should connect with different terminal.
- (2) When the Electrical Lock is connected to the Access Control System, you need to connect one FR107 diode (shipped in the package) in parallel with the connection to prevent the self-inductance EMF feedback the system, **NB: Do not reverse the polarities!**

(I) Share power with the lock:



Device share power with the lock:
ULOCK=12V, I-ILOCK>1A.....①;
And the lock is near to the device.

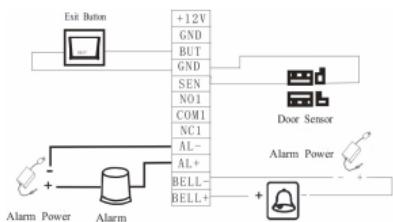
(II) Does not share power with the lock:



Device does not share power with the lock:
A. ULOCK =12V I-ILOCK≤1A;
B. ULOCK ≠12V;
C. The lock is far apart from the device.
D. We suggest user does not share power with the lock.

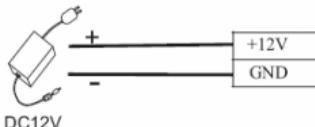
①: 'I': device output current, 'ULOCK': lock voltage, 'ILOCK': lock current

4. Connected with Other Parts



Voltage output ≤ DC 12V for Alarm

5. Connect with Power

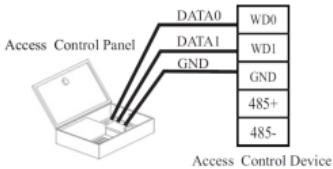


The device working voltage DC 12V, electric current 500mA (50mA for standby current). Positive is connected with '+12V', negative is connect with 'GND'.

(Do not reverse the polarities).

6. Wiegand Output

The device supports standard Wiegand output, so you can connect it with various access control devices.



- (1) Do not exceed 90m (meters) distance between the Device and Access Control Lock OR Card reader. (In the case of long distance installation, use the Wiegand Signal Extender, to minimise interference.)
- (2) To keep a balanced and stable Wiegand signal, connect the device, access control lock or card reader on the same "GND"(ground) port.

7. Communication

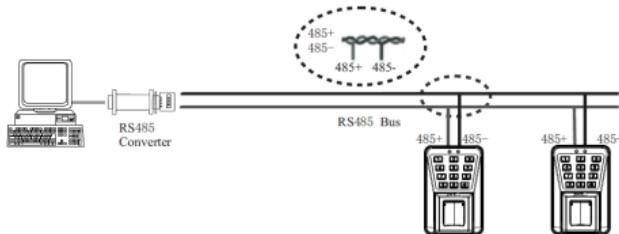
There are two modes that the PC software communicate and exchange information with the device: RS485 and TCP/IP, and supports remote control.

(1) RS485 Mode:

Please use specified RS485 wire, RS232/485 active converter, which consists of bus-type wiring. If the communication wire is longer than 100meters, you need to parallel a terminal resistance on the receiving end, and resistance value is about 120 ohm.

Terminals definition as below:

Terminals	PC Serial Ports
485+	RS485+
485-	RS485-



RS485 Reader Function:

Equipment supports RS485 reader function, can be through the RS485 communication connected to FR1200 reader which is for slaver achieves RS485 Anti-passback function. If select “RS485 reader Function”, so device can not connect with PC through RS485 communications.

Diagram of the device connect to reader as below (The device act master):

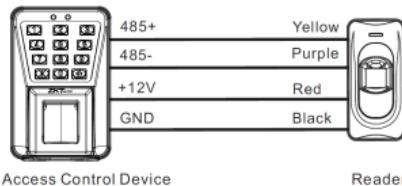
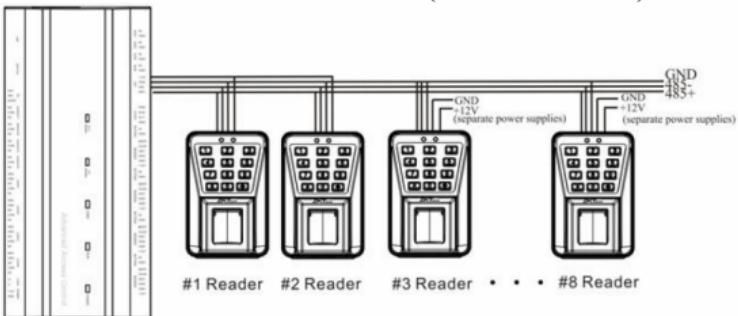


Diagram of the device connect to controller as below (The device act slaver):

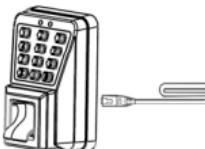


Set the 485 address (device number) by Access3.5 software.

(2) TCP/IP Mode:

Two ways are for TCP/IP connection.

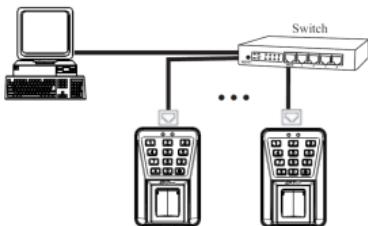
(A)Crossover cable: The device and PC connected directly.



IP Address: 192.168.1.201
Subnet Mask: 255.255.255.0

IP Address: 192.168.1.124
Subnet Mask: 255.255.255.0

(B)Straight cable: The device and PC connected to LAN/WAN through switch/Lanswitch.



Instructions

Recommended Procedure:

Step 1: Install the device and power on.

Step 2: After the administrator password is authenticated and changed, register users' fingerprints, cards, or passwords.

Step 3: Configure access control parameters, including configuring the unlocking duration, authentication mode, stealth mode, door status sensor mode, and alarm.

Functions of the Device

—1. User Management

| —1.1 Administrator Operations

- | —◆ Authenticator the Administrator Password
- | —◆ Change Administrator Password
- | —◆ Open the Door by the Administrator Password
- | —◆ Lost Password by Administrator

| —1.2 Add Users

- | —◆ Add Users
- | —◆ Register Cards in Batches
- | —◆ Backup registered user

| —1.3 Authentication Users

| —1.4 Delete Users

- | —◆ Delete a User
- | —◆ Delete All Users

—2. Access Control Management

| —2.1 Configure Unlocking Duration

| —2.2 Configure Authentication Mode

| —2.3 Configure Stealth Mode

| —2.4 Configure Door Sensor Mode

| —2.5 Configure Alarm

- | —◆ Configure Alarm setting
- | —◆ Configure Error Operation-Triggered Alarm
- | —◆ Configure Tamper Alarm
- | —◆ Configure Delay for the Door Status Sensor

1. User Management

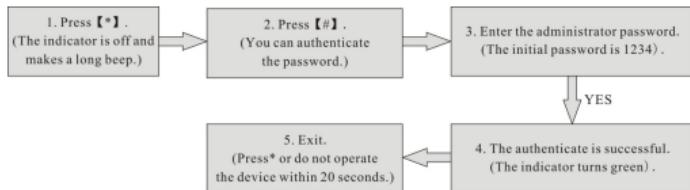
Operation Instructions

1. User Management

1.1 Administrator Operations

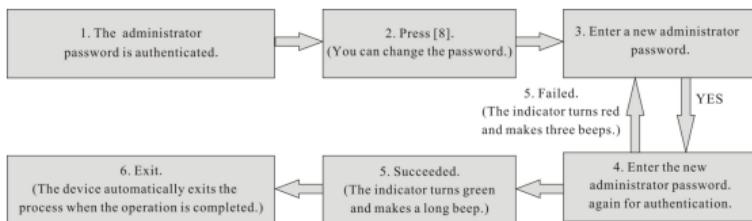
To ensure data security of the device, you can operate the device only after the administrator password is authenticated.

❖ Authenticator the Administrator Password



◎Note: The initial administrator password is 1234. You are advised to change the initial password at the beginning.

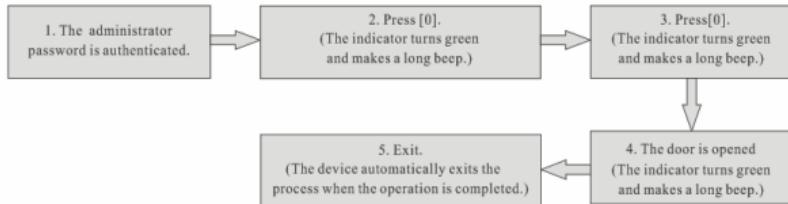
❖ Change Administrator Password



◎Note: Four-digit passwords are automatically verified. For passwords with less than four digits, press # to enter the verification process.

1. User Management

❖ Open the Door by Entering the Administrator Password



◎Note:

1. This function can be used to open the door.
2. The indicator turns red and the device automatically exits the process when the operation is completed.

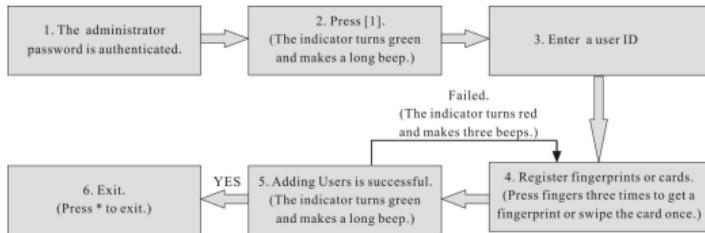
❖ Lost Password by Administrator

If the administrator password is forgotten, you can press the tamper switch three times after the alarm being triggered 30~60 seconds to restore initial administrator password. Meanwhile, it can restore factory settings, such as device number, IP address etc.

1.2 Add Users

Register the fingerprint or card of a user or register cards in batches.

❖ Add Users

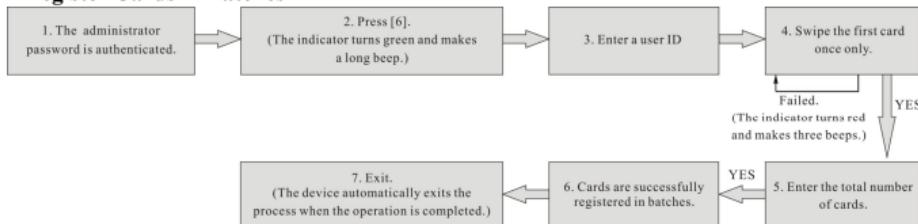


◎Note:

1. In the process of entering the user ID, night-digit numbers are automatically verified. For numbers with less than night digits, press # to enter the verification process.

2. In the registration process, the user ID increases automatically. The device automatically enters the process of registering the next user when a user is successfully registered.
3. The registration process fails if the fingerprint is of poor quality or the fingerprint or the card has been registered. After the device indicator turns green, you can register the user again. Registered users must not be registered again.

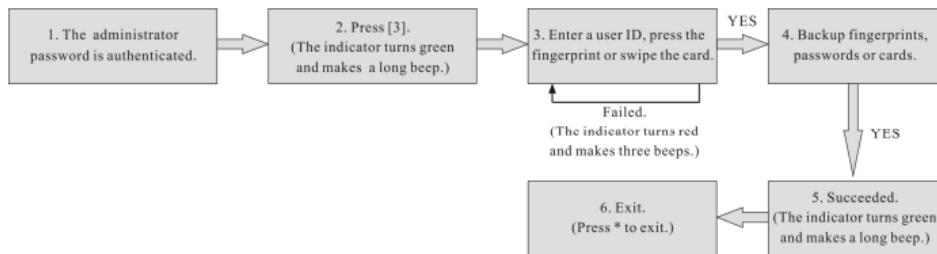
❖ Register Cards in Batches



◎Note:

1. In the process of entering the user ID, night-digit numbers are automatically verified. For numbers with less than night digits, press # to enter the verification process.
2. In the process of entering the total number of cards (0~999), three-digit numbers are automatically verified. For numbers with less than three digits, press # to enter the verification process. Press * to reenter the total number of cards.
3. You must clear all the registered users before registering cards in batches. IDs of to-be-registered cards must be consecutive numbers.

❖ Backup registered user



1. User Management

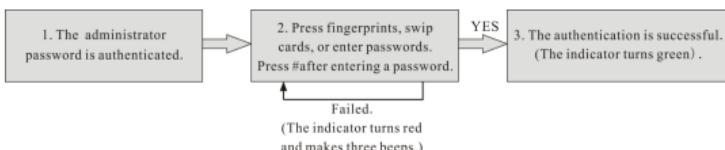
②Note:

1. You can enter a user ID, press the fingerprint or swipe the card to backup registered user. The user ID, fingerprint or card must be registered, if it is not, the indicator turns red and makes three beeps.
2. Backup fingerprint and password, it will backup fingerprint when you press the fingerprint, and if you input numbers, it will backup the password. The indicator turns green and makes a long beep means it is successful. If it is fails, can turn red 3 times.
3. One time only backup one user. Press * to exit.

1.3 Authentication Users

Authentication Users' Fingerprints/Cards/Passwords

After the device is powered on, it enters the authentication state for users to unlock the door.



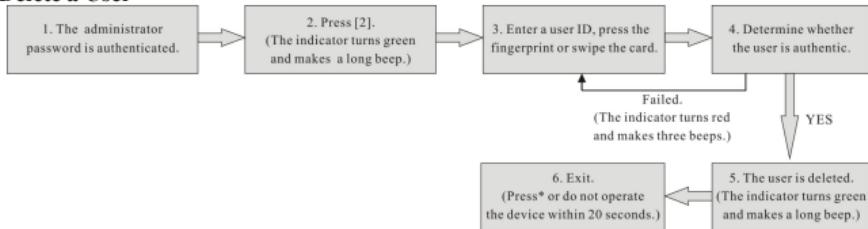
②Note:

1. Press # after entering a user ID for authentication, then entering a password, after that, press #.
2. Duress password and Emergency password: First press #, then entering a password, after that, press # (Duress password / Emergency password).
3. You can enter duress password to open the door only when authentication password.

1.4 Delete Users

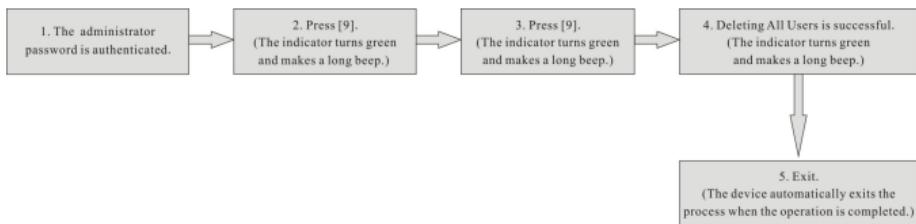
Delete a user whose fingerprint or card is registered, or delete all users.

❖ Delete a User



②Note:

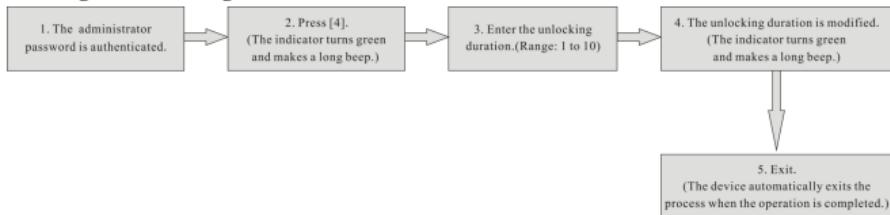
1. You can enter a user ID, press the fingerprint or swipe the card to delete the user. The user ID, fingerprint or card must be registered, if it is not, the indicator turns red and makes three beeps. In the process of entering user IDs, night-digit IDs are automatically verified. For IDs with less than night digits, press # to enter the verification process.
2. The device automatically enters the process of deleting the next user when a user is deleted, and the indicator turns green and makes a long beep.
3. Press* to exit.

❖ Delete All Users**②Note:**

1. The indicator turns green and makes a long beep when it is successful, then the indicator turns red and makes a long beep means the device exits.
2. If the second times you do not press 9, the indicator turns red and makes three beeps, after that, the indicator turns red and makes a long beep, then the device exits the process.

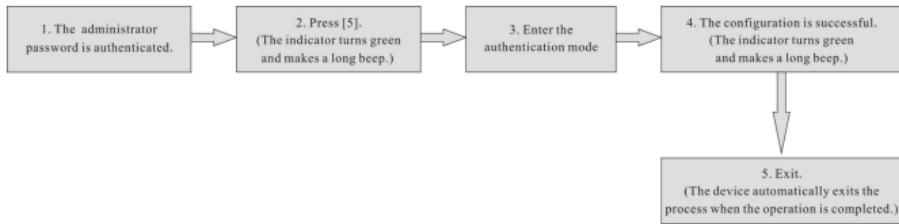
2. Access Control Management

2.1 Configure Unlocking Duration



◎Note: Two-digit values are automatically verified. For values with less than two digits, press # to enter the verification process. Values greater than 10 are considered invalid.

2.2 Configure Authentication Mode

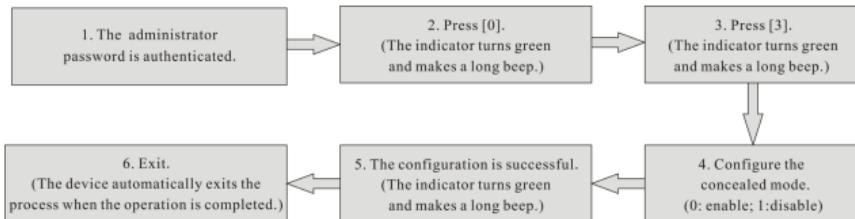


◎Note: 1. Details about the authentication mode are as follows:

Authentication Mode	type	Description
Mode 1 (number1)	PW	Only password verification
Mode 2 (number2)	RF	Only RF Card verification
Mode 3 (number3)	FP	Only fingerprint verification
Mode 4 (number4)	FP/PW/RF	fingerprint or password or RF verification
Mode 5 (number5)	RF&PW	RF plus password verification
Mode 6 (number6)	FP&PW	fingerprint plus password verification

2.3 Configure Stealth Mode

If the Stealth mode is enabled, the indicator is off when the Stealth mode is in the sleep mode.

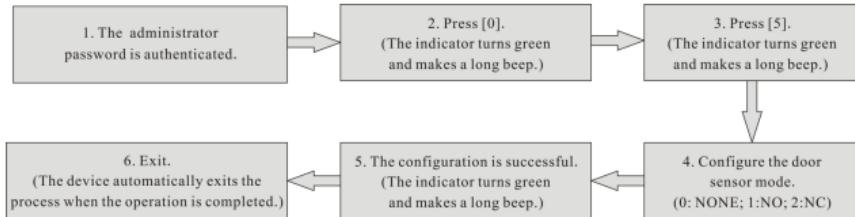


Note: An indicator blinks to indicate the status of this function when users are authenticating their cards or fingerprints.

2.4 Configure Door Sensor Mode

The door sensor switch includes three modes:

- NONE:** The door sensor switch is not used.
- NO:** The lock is open as long as the door is open.
- NC:** The lock is closed after the door is closed.

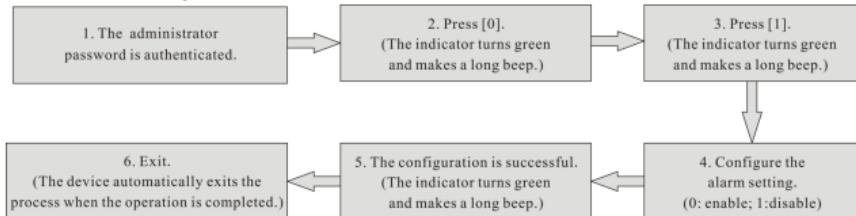


Note: The door sensor mode configured here is used as the basis for the door sensor alarm.

2.5 Configure Alarm

❖ Configure Alarm setting

The switch should be on, when it is set to be close, Error Operation-Triggered Alarm, Tamper Alarm, the Alarm Delay for the Door Status Sensor will be disabled.

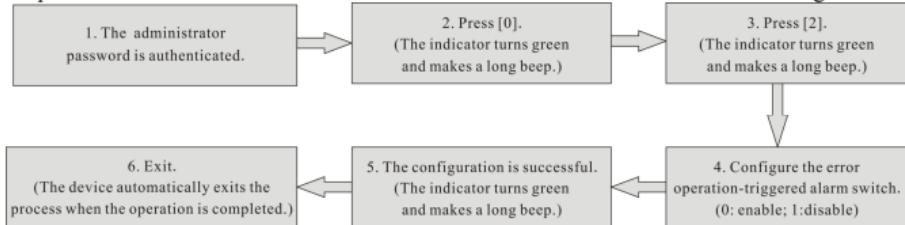


⌚Note:

- In the process of configure alarm setting, press 0 or 1 is automatically verified, the indicator turns green and makes a long beep when the authentication is successful, the device automatically exits the process when the operation is completed, and the indicator turns red and makes a long beep.
- In the process of configure alarm setting, the indicator turns red and makes three beeps when you press 2~9, then the device automatically exits the process, and the indicator turns red and makes a long beep.
- After the administrator press 0 at the first time, if you press 6~9, the indicator turns red and makes three beeps, then the device automatically exits the process, and the indicator turns red and makes a long beep.

❖ Configure Error Operation-Triggered Alarm

If this function is enabled, alarms are generated if administrator fails the authentication upon three attempts. The administrator authentication is not allowed within 20 seconds after an alarm is generated.



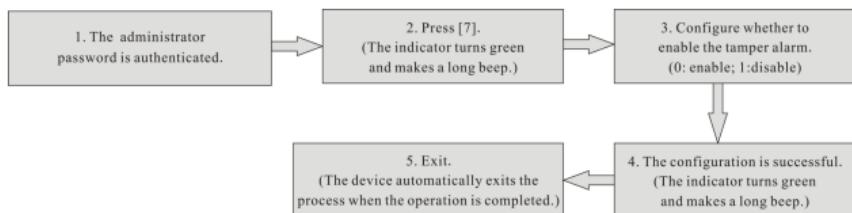
⌚Note:

1. In the process of configure the error operation-triggered alarm switch, press 0 or 1 is automatically verified, the indicator turns green and makes a long beep when the authentication is successful, the device automatically exits the process when the operation is completed, and the indicator turns red and makes a long beep.
2. In the process of configure the error operation-triggered alarm switch, the indicator turns red and makes three beeps when you press 2~9, then the device automatically exits the process, and the indicator turns red and makes a long beep.
3. After the administrator press 0 at the first time, if you press 6~9, the indicator turns red and makes three beeps, then the device automatically exits the process, and the indicator turns red and makes a long beep.

❖ Configure Tamper Alarm

If this function is enabled, alarms are generated upon device disassembly.

Configure whether to enable the disassembly alarm.

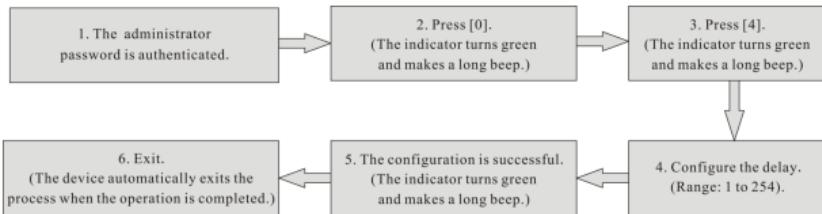
**⌚Note:**

1. In the process of configure whether to enable the tamper alarm, press 0 or 1 is automatically verified, the indicator turns green and makes a long beep when the authentication is successful, the device automatically exits the process when the operation is completed, and the indicator turns red and makes a long beep.
2. In the process of configure whether to enable the tamper alarm, the indicator turns red and makes three beeps when you press 2~9, then the device automatically exits the process, and the indicator turns red and makes a long beep.

2. Access Control Management

❖ Configure Delay for the Door Status Sensor

DSen. Delay (Door Sensor Delay): indicates the delay in checking the door sensor after the door is open. If door sensor state is inconsistent with the normal state set by the door sensor switch, an alarm will be generated, and this period of time is regarded as the “door sensor delay”.



◎Note:

1. In the process of configures the alarm delay, three-digit values are automatically verified. For values with less than three digits, press # to enter the verification process. The indicator turns green and makes a long beep when the authentication is successful, the device automatically exits the process when the operation is completed, and the indicator turns red and makes a long beep. Values greater than 254 are considered invalid.
2. In the process of configures the alarm delay, if values are greater than 254, the device automatically exits the process when the operation is completed, and the indicator turns red and makes three beeps.
3. After the administrator press 0 at the first time, if you press 6~9, the indicator turns red and makes three beeps, then the device automatically exits the process, and the indicator turns red and makes a long beep.

◎Note: If an alarm is triggered, the buzzer of the device raises an alarm. 30 seconds later, the alarm raises an alarm instead of the buzzer. The alarm stops after the user is authenticated. When the buzzer of the device raises an alarm, if the user is authenticated or the door sensor state is consistent with the normal state set by the door sensor switch, the alarm can stop.