sPress2

Fingerprint Standalone Access Control

User Manual

V1.0

Content

1 **Overview**

1.1 **Introduction**

This series of products adopt the appearance of anti-metal shielding patent technology,a new 32-bit microcontroller ARM core design with powerful functions. They are very stable and reliable. It's a new generation of multi-function access controller, including Reader mode, Single-door mode, Interlock mode, Demo mode etc. All of them could be widely used in office buildings, homes, apartments, villas, single houses, banks, prisons and other places.

1.2 Function features

➢ Zinc alloy shell, anti-metal shielding patent technology, no large area of non-metal card reading window
➢ Support 125Khz EM&HID card and 13.56Mhz Mifare card at the same time（ISO14443A）.
➢ Low power consumption sensor optical fingerprint to open the door.
➢ Infrared remote keyboard operation
➢ Can be setted as Reader mode, Single-door mode, Interlock mode or Demo mode.
➢ The output format can be set by users.
➢ Supports 5 methods including card, fingerprint and Multi-cards to open the door.
➢ Support Super-open-card(fingerprint) operation.
➢ Support Add-card, Delete-card, Anti-duress-card, Authorization-card and Normal-open card(fingerprint) operation.
➢ Support Set-card （fingerprint）operation, for quick access to the management menu.
➢ Infrared anti - demolition technology, can also alarm at night.
➢ The unlock signal adopts the NO, NC, COM output of the relay.
➢ Alarm signal output by MOS and it can be the driver of the alarm .

1.3 Functional unit

sPress2   Special infrared remote control keyboard
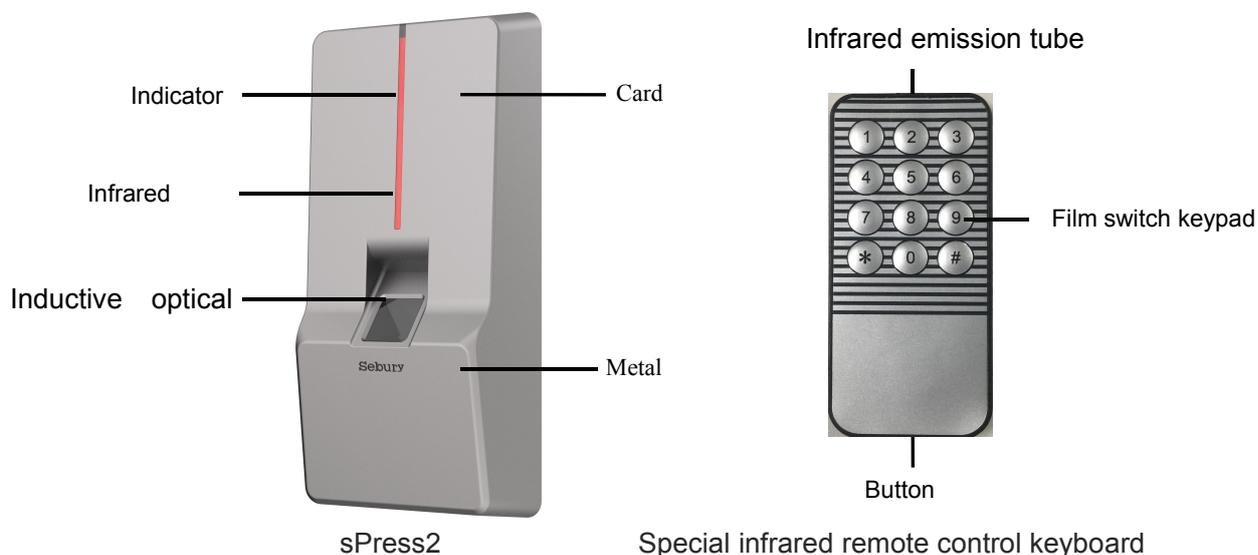
1.4 **Technical parameters**

- ➢ Working voltage: DC10～14V
- ➢ Standby current: ≤50mA
- ➢ Maximum distance of reading EM and HID cards: 5cm
- ➢ Maximum distance of reading IC and CPU card: 2cm
- ➢ Frequency: 125KHz and 13.56MHz
- ➢ Output format: Wiegand 26-66 bit(HID automatic)
- ➢ User capacity：20000
- ➢ Admin card capacity: 21
- ➢ User fingerprint capacity ：219
- ➢ Admin fingerprint capacity of ： 21
- ➢ Electric lock signal relay contact current: ≤1A
- ➢ Alarm signal MOS tube output current: ≤1A
- ➢ Working environment temperature: -20～60℃
- ➢ Working environment humidity: 0～95% (no condensation)
- ➢ Dimension: 170*83*35mm

2 Installation, wiring and debugging

2.1 Packing list

No.	Item	Model	Qty	Note
1	Color box	sPress2	1	
2	Standalone access control	sPress2	1	
3	User manual	sPress2	1	
4	Punch stickers	sPress2	1	
5	Decorative sheet	sPress2	1	
6	Expansion rubber plug	Φ6mm×30 mm	4	White
7	Self-tapping screw	ΦKA4mm×25 mm	4	Galvanized

2.2 Installation and Wiring
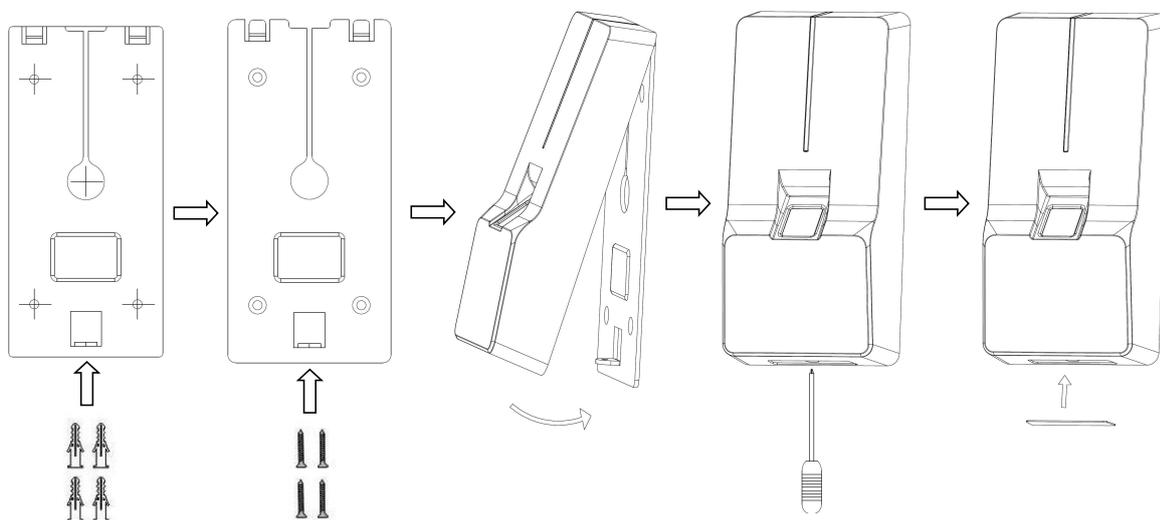
①Put the Punch sticker on a suitable position on the wall, use a percussion drill to make an outlet hole with a diameter greater than 14mm and four plastic screw holes with a diameter of 6mm, and then insert four matching plastic screws; ②Use a screwdriver Unscrew the anti-dropping screw just below the side of the product, remove the bottom case of the product, and fix the bottom case on the wall with four matching self-tapping screws on the wall according to the hole position of the bottom case. ③According to the selected wiring diagram, cut the lead wires to a suitable length, and cut off the excess wires, and connect them to the system wires one by one according to the wiring diagram through the wall or in the embedded box. Be careful not to connect wrongly or Short circuit, otherwise the machine may be burnt out. After checking all is correct, shortly power on to test whether the indicator light is normal and the buzzer beeps, otherwise immediately cut off the power supply, recheck whether the wiring is correct, and after it is correct, install the front shell of the product on the bottom shell on the wall. Remove the screws and fix it. ④Attach the decorative sheet to the position of the anti-dropping screw. The product wiring colors and functions are shown in the following table：

Color	Symbol	Functions
Red	+12V	Positive pole
Black	GND	Ground
Green	D0	Wiegand signal, D0 input or output(or RS232-TTL signal output: Tx)
White	D1	Wiegand signal, D1 input or output(or RS232-TTL signal input : Rx)
Brown	D_IN（LED）	Door contact input (or external control input of green LED)
Yellow	OPEN（BZ）	Exit button input(or external control input of buzzer)
Blue	NO	Normal open port of Relay
Purple	COM	Common port of Relay
Orange	NC	Normal close port of Relay
Grey	Alarm-	Alarm (or doorbell) signal MOS drain output

Reader mode wiring diagram

Reader mode full function wiring diagram

Standalone access controller mode wiring diagram(power off to unlock)

Standalone access controller mode wiring diagram(power on to unlock)
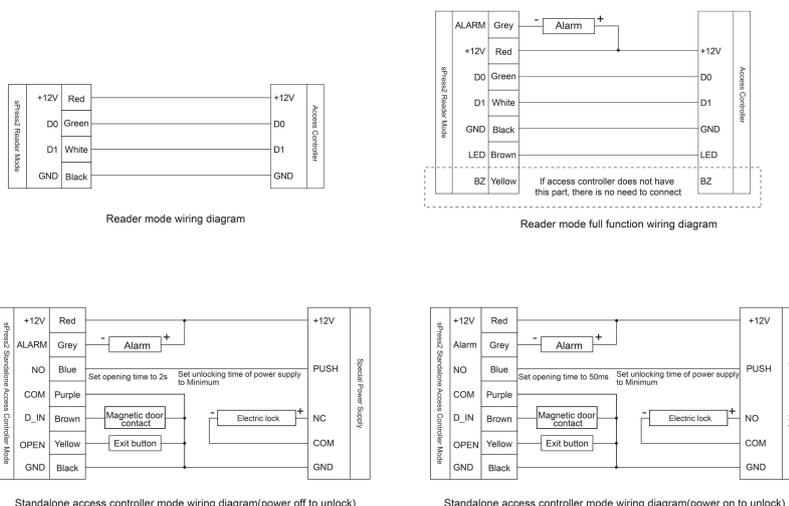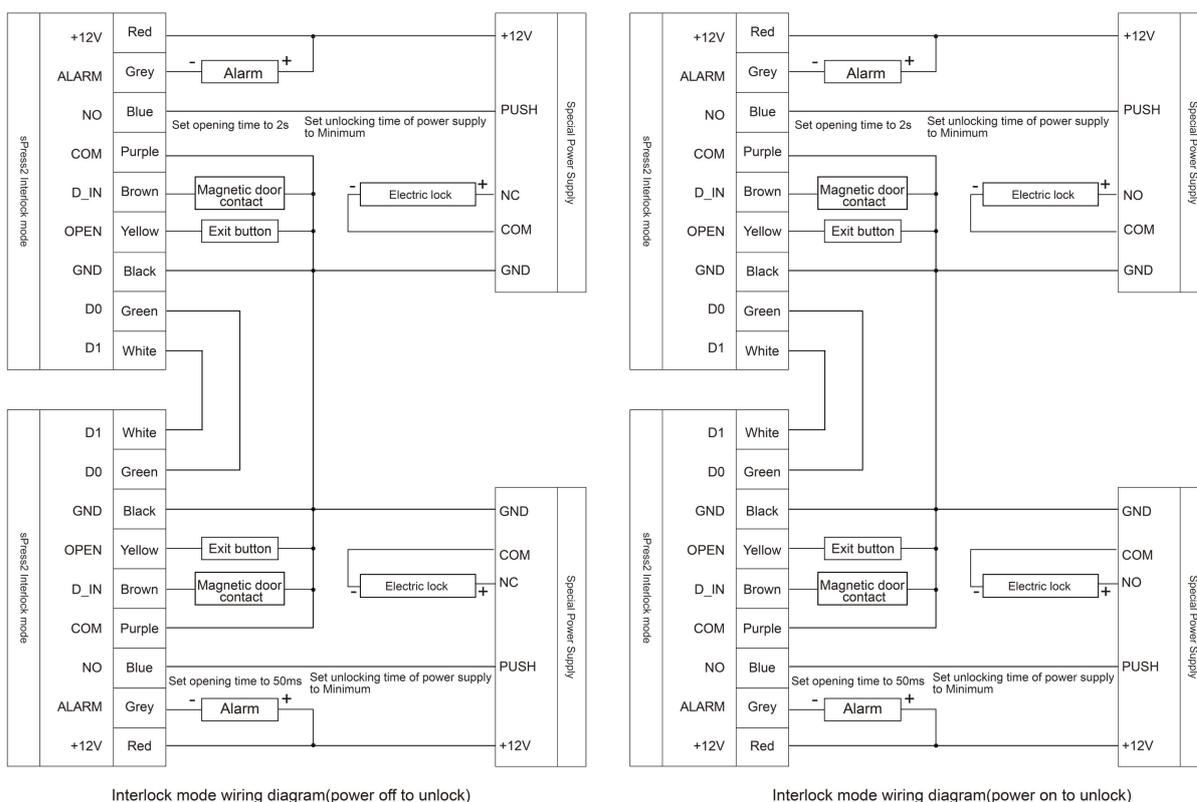
Interlock mode wiring diagram(power off to unlock)   Interlock mode wiring diagram(power on to unlock)

2.3 Debugging

Turn on the power, test according to the content of the introduction, until the electric lock can be opened correctly with the card reader, fingerprint and exit button, the debugging is completed.

3 Getting Started

Writing Conventions:
➢ Keypad operation only can be used between "0123456789*#" these12 buttons
➢ "…" means continue similar operation as indicated from previous operations.
➢ ","is not an actual operation, it's just punctuation.
➢ "()" means the serials of digital numbers which will be type into the controller, like PIN code, ID number ,card number

Operation Conventions：
➢ "Beep-"one long beep means the operation was correct. "beep-beep-beep" three short beeps mean operation was incorrect. LED light turn to green means operation was successful.

➢ "#" means previous operation was received by system, it normally uses at the end of the digital numbers of PIN code, ID number, card number or parameter, when you type this key it means input is finished.

➢ "*" means cancel the current operation or return to the previous menu.

➢ Management menu fix to 2 digits, from 00~99, Don't press "#", after entering the menu, LED light turn to orange,if operation failed will hear"beep-beep-beep"3 short beeps.

➢ Under the management menu operation mode, if system detected without any operation over 30 seconds, it will back to standby mode automatically

Indicator light and buzzer prompt：

Operation Status	Indicator light	Buzzer
Standby mode	Red	
Successful operation	Green	A long beep
Operation incorrect		3 short beeps
When admin card enter		2 short beeps
When admin card exit		A long beep
Press digit key		A short beep
Press * key		A long beep
Card & fingerprint Mode, after reading the card	Red slow flash	
Multi-user open door unfinished	Red slow flash	
Enter the admin main menu	Red slow flash	
Enter the setting status	Orange	
The unlock status	Green	
Alarm	Red quick flash	Alarm Sound

3.1 **Enter management menu operation mode**

* (Hold on for more than 2 seconds), (Input admin password) #
Note: Admin   password is a 6 digits number, 888888 is the factory default admin password. The user should change the admin password when use the device for the first time, otherwise user cannot continue other operations. After input correct admin password, the LED light will flash green for one time and then back to red flash status, all of the rest operations must under this status.

3.2 Change admin password

00, (New admin password) #, (Repeat new admin password)#
Note: New admin password is a 6 digits number

3.3 Set controller to Single-door mode

Factory default setting is single door mode, if user does not sure about the mode, please set it again, the steps please follow:
03, 1#

3.4 Set door opening time to 2s

Assuming it is an electric mortise lock, the factory default opening time is 2S, no adjustment is required. Just adjust the unlocking time of the special power supply for access control to the minimum. If you are not sure what the door opening time of the machine is, you need to reset it. The steps are: 34, 2 #

3.5 **Add User Card** or Fingerprint

10, read card (or press fingerprint twice), read card (or press fingerprint twice) …repeat the operation till the last user card.
Note: the controller can read multi-cards or fingerprints continuously, each fingerprint press twice. When you hear a long "beep- "and indicator light turn to green it means the new card or fingerprint added successfully. After finishing the last card or fingerprint, please press the * key to exit.

3.6 Exit Management menu operation mode

In Management menu operation mode, press * more than once until the indicator light turn to red and always bright means exit Management menu operation mode.

3.7 User open door

When the indicator light is red and always bright, read card, or press user fingerprint or press exit button.
Note: When the door opens, there is a long "beep" sound and the indicator light turns to green when the door is unlocked.

4 Basic Functions

4.1 Management menu operations

In all modes, the steps of entering the   management menu:
* key (Hold on for more than 2 seconds), (Admin Password)#
or to read Set-card
Note: Admin Password is 6 digits, 888888 is the factory default admin password. User should change the Admin Password when use the device for first time, otherwise user cannot continue other operation. If the Admin Password is correct, the indicator light will turn to green once and then back to red flash status. Other operations must be performed in this status. If the user who forget the admin password or user who need to use the management menu for many times can use this method by read the Set-card instead keypad operation.

4.1.1 Change Admin Password

00,(New Admin Password)#,(Repeat Admin Password)#
Note: New Admin Password must be 6 digits.

4.1.2 Set admin card (Fingerprint)

01, 0#, read card(or press fingerprint twice), …, Set 1-3 Set-cards(or fingerprint).

01, 1#, read card(or press fingerprint twice), …, Set 1-3 Add-cards(or fingerprint).

01, 2#, read card(or press fingerprint twice), …, Set 1-3 Delete-cards(or fingerprint).

01, 3#, read card(or press fingerprint twice), …, Set 1-3 Super-open-cards(or fingerprint).

01, 4#, read card(or press fingerprint twice), …, Set 1-3 Anti-duress-cards(or fingerprint).

01, 5#, read card(or press fingerprint twice), …, Set 1-3 Authorization-cards(or fingerprint).

01, 6#, read card(or press fingerprint twice), …, Set 1-3 Normal-open-cards(or fingerprint).

Note: Each type of admin card(or fingerprint) can be divided several times to set till to 3pcs.

4.1.3 Delete admin card(or fingerprint)

02, 0000#, delete all 21 admin cards(or fingerprint).

02, 0#, delete 3 Set-cards(or fingerprint).

02, 1#, delete 3 Add-cards(or fingerprint).

02, 2#, delete 3 Delete-cards(or fingerprint).

02, 3#, delete 3 Super-open-cards(or fingerprint).

02, 4#, delete 3 Anti-duress-cards(or fingerprint).

02, 5#, delete 3 Authorization-cards(or fingerprint).

02, 6#, delete 3 Normal-open-cards(or fingerprint).

4.1.4 Set Machine Mode

03, 0#, Set to Reader mode.

03, 1#, Set to Single-door mode.

03, 3#, Set to Interlock mode.

03, 9#, Set to Demo mode.

Note: Factory default mode is Single-door mode.

4.1.5 Limit types of reading card

04, 0#, cannot read any card.

04, 1#, can read EM card only.

04, 2#, can read HID card only.

04, 3#, can read IC card only.

04, 4#, can read EM+HID card.

04, 5#, can read EM+IC card.

04, 6#, can read HID+IC card.

04, 7#, can read EM+HID+IC card.

4.1.6 Restore to default settings

09，0000#

Note: After Restore to default settings, Admin Password is unchanged, Machine mode is unchanged, admin cards and user card information are not deleted, and the specific default values are shown in the appendix.

4.1.7 Add User

4.1.7.1 Automatically generates ID numbers to add user card (or fingerprint)

Read card(or fingerprint) continuously to add user:

10, read card(or press fingerprint twice), … *

Input 8-digit format card number to add user

10, 8# (8-digit format card number) #, 8# (8-digit format card number) #, …*

Input 10-digit format card number to add user:

10,10# (10-digit format card number) #, 10# (10-digit format card number) #, …*

Note: For example, card number is: 0004301875, 06542035, front numbers are 10-digit format card number, the following numbers are 8-digit card number, 00 in front of number can be omitted, you can input 4301875 or 65,42035. The card number not separated by commas or other symbols is considered as 10-digit format card number. The following sections are dealt with according to this rule.

4.1.7.2 Specify ID number to add user card (or fingerprint)

Specify ID number and read card to add user:

11, (ID) #, read card (or press fingerprint twice), … *

Specify ID number and input 8-digit card number to add user:

11, (ID) # 8# (8-digit format card number) #, (ID) # 8# (8-digit format card number) #, …*

Specify ID number and input 10-digit format card number to add user:

11, (ID) # 10# (10-digit format card number) #, (ID) # 10# (10-digit format card number) #, … *

Note: ID number are 1~5 digits between 1~20000.

4.1.7.3 Specify first ID number to add serial number card users

Add 8-digit format serial number card users:

12, (ID) #, 8# (8-digit format card number) #, (card quantity) #

Add 10-digit format serial number card users:

12, (ID) #, 10# (10-digit format card number) #, (card quantity) #

Note: ID number are 1~5 digits, the range is 1-20000, ID number plus card quantity must be less or equal to 20001. After add serial number cards, the first card will be based on ID number and card number, each time add one card, ID number and card number will add 1 at the same time till to all card is added. In order to prevent duplication of card numbers, please delete all user cards and admin cards before add serial number cards.

4.1.8 Delete user

Delete all users:
> 20, 0000#

Delete user card by read card(or fingerprint):
> 21, read card(or press fingerprint once), …

Delete user by input 8-digit format card number:
> 21, 8# (8-digit format number) #, 8# (8-digit format number) #, …

Delete user by input 10-digit format card number:
> 21, 10# (10-digit format number) #, 10# (10-digit format number) #, …

Delete user by input ID number
> 22, (ID) #, (ID number) #, …

4.1.9 Set open door methods

> 30, 0#, open door by card.
> 30, 2#, default value, open door by cards or fingerprint.
> 30, 3#, open door by fingerprint.
> 30, 5#, open door by card and fingerprint.
> 30, 6#, open door by multi-user.

Note: Super-open-card is not affected by any open door method; you can open door at any time. Open door by multi-user refer to open door by multi-card or multi-fingerprint, if card and fingerprint are the same ID, as one user.

4.1.10 Set the number of doors opened by multi-user

> 31, (2-10)#, read 2-10 cards (or fingerprints) in order to open the door (the door opening mode must be set to the multi-user opening mode)

4.1.11 Set lock working mode

> 32, 0#, default value, set lock to Delay mode. After an unlock operation, the lock is opened , then the lock will be closed automatically after a few moment of delay. Apply to normal open.

> 32, 1#, set lock to Switch mode. After an unlock operation, the lock will keep opening until another unlock operation again, the lock will keep locking, and so on.

> 32, 2#, set lock to Normal-open mode. Under this mode, the lock will keep opening, not controlled by other unlocking action. If the user don't want to use the Normal-open mode, please set the mode to the other two modes.

Note: A better way to implement the Normal-open mode is operation by Normal-open card

(or fingerprint) in the first mode, it can switch to Normal-open mode and normal status quickly. The operation of Normal-open card(or fingerprint), see relevant chapter of admin cards(or fingerprint) operation.

4.1.12 Set Limits User Mode

33, 0#, disable users to use.

33, 1#, default value, enable users to use.

Notes: A better way to implement the limits of user mode is operation by Authorization-card(or fingerprint), it can switch to disable and enable users to operate quickly. The operation of Authorization-card(or fingerprint), see relevant chapter of admin cards(or fingerprint) operation.

4.1.13 Set Open-time

34, 0#, set Open-time to 50mS, apply to electrically controlled lock for external instantaneous large current

34, (1-999) #, the default value is 2, set Open-time from 1 to 999s.

Note: Unlock-time of Access Controller's special power supply should set to minimum time to ensure the actual Unlock-time match with user's settings.

4.1.14 Set notification to close door

35, (0-99) #, the default value is 10, set the time to notify when user don't close the door after open it beyond the setting time. the buzzer begin to beep for notification.

36, (0-99) #, the default value is 10, set the time for beeping.

Note: If you don't need notification, can set the time for beeping to 0.

4.1.15 Set Alarm-time

40, 0#, default value, if set Alarm-time to 0 means no alarm.

40, (0-99) #, Alarm-time is set from 1 to 99 minutes.

4.1.16 Set Anti-dismantle alarm function

41, 0#, default value, disable Anti-dismantle alarm function.

41, 1#, enable Anti-dismantle alarm function.

Note: When the machine is illegally dismantled, it alarms and an alarm signal will be send out at the same time. The alarm can be canceled by inputting Admin Password, read admin card(or fingerprint) or user card(or fingerprint).

4.1.17 Set Anti-crack function

43, 0#, default value, normal working mode.

43,1#, alarm working mode, when error operation times more than allowed times, the machine alarm will beeps and it send out alarm signal.

43, 2#, locked working mode, when error operation times more than allowed times, the machine will lock up for some time. User cannot press any key or read card during that time.

44, (1-10)#, default value is 10, set maximum times for the error operation from 1 to 10 .

45, (1-99)#, default value is 10, after the error operation exceeds the set maximum number of times, it will be locked for 1-99 minutes.

Note: Anti-crack function refers to prevent illegal and unlimited password or card crack to open the door in a short period of time, the basic method is within 10 minutes of invalid password or invalid card number read error exceeds the default setting, the controller will alarm or lock up for some time.

4.1.18 Set LED indicator light mode

50, 0#, standby, LED indicator light is off.

50, 1#, default value, standby, LED indicator light always red.

50, 2#, standby, LED turns green in reader mode, LED turns red in other modes.

4.1.19 Adjust the brightness of the normally bright red indicator

51, 1, 1, ... ,decrease brightness

51, 2, 2, ..., increase brightness

Note: The brightness of the indicator light can be adjusted total 21 different levels. Each time you press the "1" key, it decrease 1 level of brightness. Press and hold on the "1" key, the brightness will continuously decrease. When it reaches to minimum level of brightness, the controller will beep twice. Each time you press the "2" key, it increase the level of brightness. Press and hold on the "2" key, the brightness will continuously increase. When it reaches to the maximum brightness the controller will beep twice.

4.1.20 Set buzzer mode

54, 0#, disable buzzer.

54, 1#, default value, enable buzzer.

Note: Enable or disable buzzer only concern normal users operation, such as the sound of opening door by read cards. When you press the * key for 2 seconds, the buzzer is forced to enable, such as entering the management menu . In addition, the alarm tone is not controlled by the setting, and the buzzer can still send an alarm tone when the buzzer disable.

4.1.21 Adjust key volume

55, 1, 1, ... , decrease volume.

55, 2, 2, ... , increase volume.

Note: The key volume can be adjusted at 15 levels. Each time you press the 1 key, decrease 1level of volume, press the 1 keys do not move quickly and automatically decrease the volume, when it has been adjusted to a minimum volume, "beep" twice, each time you press the 2 key, increase 1 level of volume, press the 2 keys do not move quickly and automatically increase the volume, when it have been adjusted to the maximum volume, "beep" twice.

4.1.22 Set reader output format

4.1.22.1   Set facility code

60, (0-255)#, default value is 0, set facility code.

Note: The facility code will be used when fingerprint ID output, See the following sections for specific use.

4.1.22.2   Set D0 & D1 output format

61, 0#, D0 & D1 output wiegand format.

61, 1#, D0 output RS232-TTL-HEX format.

61, 2#, D0 output RS232-TTL-ASCII-8 format

61, 3#, D0 output RS232-TTL-ASCII-10 format.

Note: The wiegand format is an international protocol for access control products. But the width of pulse and interval time are different. Our standard: Pulse's high level is 5V and low level is 0V. Width is 40uS,interval time is 2mS.

RS232-TTL-HEX format refers to the standard RS232 communication protocol data output, TTL level 0-5V, the output data is output by the card byte HEX format.

The output RS232-TTL-ASCII-8 format is the output data is ASCII character format, card

number data is 8 bit format, and same as the ordinary EM card marked on the 8 bit card number,

but omit the 0 in front of it.

The output RS232-TTL-ASCII-10 format is the output data is ASCII character format, card

number data is 10 bit format, and same as the ordinary EM card marked on the 10 bit

card number, but omit the 0 in front of it.

For example, a 3 byte number of RS232-TTL-HEX format is A83EF6, the actual output is A83EF6, the RS232-TTL-ASCII-8 format is 168,16118, the actual output is 16816118, the RS232-TTL-ASCII-10 format is 0011026166, the actual output is 11026166.

4.1.22.3 Set wiegand output format for reading card or pressing fingerprint

62, (26-66)#, default value is 26, the Wiegand output format for reading card or pressing fingerprint can be set from 26-66

When pressing a valid user fingerprint, the output format is that the lower 2 bytes are the fingerprint user ID number, and the lower 3 byte is the machine device number. If the machine device number is 3 and the fingerprint ID is 12, the output data is equivalent to the 26-bit card number 003,00012. If the card number in other formats is output, the high digits should be filled with 0.

4.1.22.4 Set wiegand output parity format for reading card or pressing fingerprint

63, 0# wiegand output without parity check.

63, 1# default value, wiegand output with parity check (EO format)

Note: EO format is standard wiegand format. Even check data add in front and Odd check data add in the end.

4.2 Admin card (or fingerprint) or PIN operation

4.2.1 Set-card (or fingerprint) operation

The main function of Set-card (or fingerprint) is to replace the input Admin Password into the management menu operation. It is suitable for forgetting the Admin Password or frequently entering the management menu operation. Its operation is:

Read Set-card (or fingerprint), equivalent to operation: * (Press for more than 2 seconds), (Admin password) #.

Note: After reading Set-card (or fingerprint), the indicator lights are red flashing, indicating that the management menu operation mode has been entered and other operations can be performed.

4.2.2 Add-card (or fingerprint) operation

Read Add-card (or fingerprint), read user card (or fingerprint), read user card (or fingerprint), ... read Add-card (or fingerprint).

Note: Add-card (or fingerprint) is mainly used for rapid continuously to add the user

card, first read Add-card (or fingerprint), sound two short "beep", light is orange, indicating to enter the add user card state, second read Add-card (or fingerprint), sound a long "beep" , light turns red, indicating to exit add user card state.

4.2.3 Delete-card (or fingerprint) operation

Read Delete-card (or fingerprint), read user card (or fingerprint), read user card (or fingerprint), ... read Delete-card (or fingerprint).

Note: Delete-card (or fingerprint) is mainly used for rapid continuously to delete the user card, first read Delete-card (or fingerprint), sound two short "beep" sound, light is orange, indicating to enter the delete user card state, second read Delete-card (or fingerprint), sound a long "beep", light turns red, indicating to exit delete user card state.

4.2.4 Super-open-card (or fingerprint) operation

Read Super-open-card (or fingerprint).

Note: Super-open-card (or fingerprint) has the highest open authority, in a variety of way to open the door, or restrict the user to open the door, the Super-open-card (or fingerprint) can open the door.

4.2.5 Anti-duress-card (or fingerprint) operation

Read Anti-duress-card (or fingerprint).

Note: Anti-duress-card (or fingerprint) have the same authority with Super-open-card (or fingerprint). The only difference is after reading Anti-duress-card(or fingerprint), the door will open while outputting alarm signal.

4.2.6 Authorization-card (or fingerprint) operation

Read Authorization-card (or fingerprint) once, two short beeps, limit users.
Read Authorization-card (or fingerprint) again, one long beep, release limit.

Note: Authorization-card   (or fingerprint) authorizes users. By default, users can operate properly, you can use an Authorization-card   (or fingerprint) when you need to restrict user access.

4.2.7 Normal-open-card (or fingerprint) operation

Read Normal-open-card (or fingerprint) once, two short beeps, lock keep open, not controlled by other unlocking action.

Read Normal-open-card (or fingerprint) again, one long beep, release normal open state.

4.3Users operation

4.3.1 Get user card or enter Fingerprint

Users must obtain the user card or entering fingerprint from the administrator for the first time.

4.3.2 4.3.2 User open door

Open door by user card or fingerprint:

read user card, or fingerprint.

Open door by user card and fingerprint:

Read user card, press the user's fingerprint in 5 seconds.

Open door by multi-users:

Read user card (or fingerprint), read another user card (or fingerprint) in 5 seconds ....

Exit operation:

Press exit button

Note: In addition to the exit operation, make sure that the machine is not in a disable user state. You must first set up good way to open the door, open the door by multi-card also needs to set a good quantity of card. If card or PIN is valid, a long "beep", the lock will be opened. During the opening time, LED turns green. After that, LED turns red and keep. In card & PIN   open mode or multi-card open door mode, the interval time of reading card or inputting PIN cannot be more than 5 seconds.

4.4 Other operations

4.4.1 Cancel alarming

Read admin card (or fingerprint) or the user card (or fingerprint), or Admin Password #.

Note: When the alarm has happened, the buzzer will ring "Wu, Wu" alarm sound. User can cancel the alarm by reading the valid user card (or fingerprint) and entering Admin Password. But the alarm output signal can't be canceled by reading the anti-duress card.

4.4.2 Admin Password initialization

When you forget the Admin Password, you can restore it to the initial password by special operation. Operation is as follows:

Power off, and then power on again,   press # key in one second within the indicating light turn orange, then you will hear two "beep", and a long beep, admin password has restored to 888888. But the other parameters, the info of the card and fingerprint will be still kept.

4.4.3 Restore factory settings

When you forget the Admin Password, or when the users set the parameters randomly, you can return to the normal situation by restoring the factory settings, as follows:
Power off, and then power on again,　press # key in one second within the indicating light turn orange, then you will hear two "beep", and a long beep, admin password has restored to 888888, while the machine parameters revert to factory settings, the specific default values are shown in the schedule, other cards and fingerprint information will not be deleted.

4.5 Operation characteristics in different machine modes

4.5.1 Operation characteristics in Reader mode

In the reader mode, you can add or delete set-card (or fingerprint), adding card (or fingerprint), or deleting card (or fingerprint), you can add or delete fingerprint users.

It outputs wiegand signal or RS232-TTL signal when reading user card or fingerprint user.

The functions of the two control wires, LED and BZ are as follows:
LED: Green LED control wire, LED turns to green when low level.
BZ: Buzzer control wire, Buzzer keep sounds when low level.

4.5.2 Operation characteristics in Single-door mode

The default mode is Single-door mode, most applications work in this mode, in this mode, you could control the electric lock to open the door directly.

4.5.3 Operation characteristics in Interlock mode

Interlock mode is refers to interlocking between two door, installing a machine and a Magnetic Door Contact for each door , and they have been set in interlock mode. One door can be opened only when the two doors are closed. If one door has opened, and not yet closed, then other door can not be opened. Besides, other operations of the interlock mode are the same as the Single-door mode.

4.5.4 Operation characteristics in Demo mode

Demo mode is the mode for Single-door mode, primarily for display purposes or without safety needed situation, as a tool to use any card (or fingerprint) to open the door. In this mode, any card (or fingerprint) can open the door without authorization.

5 Management menu summary table

5.1 Reader mode management menu summary table

Menu	Parameter or operation step	Function	Default value
	Way to enter menu : * (press for more than 2 seconds), (Admin password) #		
00	(New admin password) #, (Repeat new admin password)	Change admin password	888888
01	0# ,read card (or fingerprint twice), …	Set 1-3 Set-cards (or fingerprint)	
	1# ,read card (or fingerprint twice), …	Set 1-3 Add cards (or fingerprint)	
	2# ,read card (or fingerprint twice), …	Set 1-3 Deleting cards (or fingerprint)	
02	00000, #	Delete 21 Admin cards (or fingerprint)	
	0#	Delete 3 Set-cards (or fingerprint)	
	1#	Delete 3 Adding cards (or fingerprint)	
	2#	Delete 3 Deleting cards (or fingerprint)	
03	0#	Reader mode	1
	1#	Single-door mode	
	3#	Interlock mode	
	9#	Demo mode	
04	0#	Cannot read card	7
	1#	Only read EM card	
	2#	Only read HID card	
	3#	Only read IC card	
	4#	Read EM and HID card	
	5#	Read EM and IC card	
	6#	Read HID+IC card	
	7#	Read EM, HID and IC card	
09	0000#	Restore default settings, operating mode, admin password and user information unchanged	
10	Press fingerprint 2 times,…	Add fingerprint users continuously	
11	(ID) #, Press fingerprint 2 times, ….	Specify ID number to add fingerprint user	

Way to enter menu : * (press for more than 2 seconds), (Admin password) #			
Menu	**Parameter or operation step**	**Function**	**Default value**
20	0000#	Delete all users	
21	Press fingerprint 1 time	Delete user by fingerprint	
22	(ID) #, (ID) #,…	Delete user by ID number	
40	0, #	Set Alarm time to 0, means no alarm	0
	(1-99)#	Set the alarm time to 1-99 minutes	
41	0#	Disable Anti-dismantle alarm	0
	1#	Enable Anti-dismantle alarm	
50	0#	Indicator light is always off	1
	1#	Red indicator light is always on	
	2#	Green indicator light is always on	
51	1,1,…,#	Decrease the brightness of the normally bright red indicator	18
	2,2,…,#	Increase the brightness of the normally bright red indicator	
54	0#	Disable the buzzer	1
	1#	Enable the buzzer	
55	1,1,…,#	Decrease the keypad tone	12
	2,2,…,#	Increase the keypad tone	
60	(0-255)#	Set facility code	0
61	0#	D0 & D1 output wiegand format.	0
	1#	D0 output RS232-TTL-HEX format.	
	2#	D0 output RS232-TTL-ASCII-8 format.	
	3#	D0 output RS232-TTL-ASCII-10 format.	
62	(26-66)#	The wiegand output format for reading card can be set from 26-66 bits.	26
63	0#	Wiegand output without parity check.	1
	1#	wiegand output with parity check(EO format).	

5.2 Single-door mode (or Interlock mode) management menu summary table

Menu	Parameter or operation step	Function	Default value
Way to enter menu : * (press for more than 2 seconds), (Admin password) #			
00	(New Admin Password) #, (Repeat new Admin Password)	Change admin password	888888
01	0#, read card (or press fingerprint twice), …	Set 1-3 Set-cards.	
	1#, read card (or press fingerprint twice), …	Set 1-3 Add-cards (or fingerprint).	
	2#, read card (or press fingerprint twice), …	Set 1-3 Delete-cards (or fingerprint).	
	3#, read card (or press fingerprint twice), …	Set 1-3 Super-open-cards (or fingerprint).	
	4#, read card (or press fingerprint twice), …	Set 1-3 Anti-duress-cards (or fingerprint).	
	5#, read card (or press fingerprint twice), …	Set 1-3 Authorization-cards (or fingerprint).	
	6#, read card (or press fingerprint twice), …	Set 1-3 Normal-open-cards (or fingerprint).	
02	0000, #	Delete 21 admin cards (or fingerprint).	
	0#	Delete 3 Set-cards (or fingerprint).	
	1#	Delete 3 Add-cards (or fingerprint).	
	2#	Delete 3 Delete-cards (or fingerprint).	
	3#	Delete 3 Super-open-cards (or fingerprint).	
	4#	Delete 3 Anti-duress-cards (or fingerprint).	
	5#	Delete 3 Authorization-cards (or fingerprint).	
	6#	Delete 3 Normal-open-cards (or fingerprint).	
03	0#	Reader mode	1
	1#	Single-door mode	
	3#	Interlocked mode	

Menu	Parameter or operation step	Function	Default value
	...		

Menu	Parameter or operation step	Function	Default value
	9#	Demo mode	
04	0#	Cannot read card	7
	1#	Only read EM card	
	2#	Only read HID card	
	3#	Only read IC card	
	4#	Read EM and HID card	
	5#	Read EM and IC card	
	6#	Read HID+IC card	
	7#	Read EM, HID and IC card	
09	0000#	Restore default settings, operating mode, admin password and user information unchanged.	
10	Read card(or press fingerprint twice), …	Read card continuously to add users.	
	8#(8-digit format card number)#, 8#(8-digit format card number)#, …	Input 8-digit format card number to add users.	
	10#(10-digit format card number)#, 10#(10-digit format card number)#, …	Input 10-digit format card number to add users.	
11	(ID)#, read card(or press fingerprint 2 times), …	Specify ID number and read card(or fingerprint) to add user.	
	(ID)#8#(8-digit format card number)#, ID)#8#(8-digit format card number)#, …	Specify ID number and input 8-digit card number to add user.	
	(ID)#10#(10-digit format card number)#, (ID)#10#(10-digit format card number)#, …	Specify ID number and input 10-digit format card number to add user.	
12	(ID)#, 8#(8-digit format card number)#, (card quantity)#	Add 8-digit format serial number card users.	
	(ID)#, 10#(10-digit format card number)#, (card quantity)#	Add 10-digit format serial number card users	
20	0000#	Delete all users	
21	Read card(or fingerprint), …	Delete card user by reading card	
	8#(8-digit format number)#, 8#(8-digit format number)#, …	Input 8-digit format card number to delete user card.	
	10#(10-digit format number)#, 10#(10-digit format number)#, …	Input 10-digit format card number to delete user card.	

Way to enter menu : * (press for more than 2 seconds), (Admin password) #

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Menu	Parameter or operation step	Function	Default value
Way to enter menu : * (press for more than 2 seconds), (Admin password) #		
22	(ID)#, (ID)#, …	Input ID number to delete user.	
30	0#	Open door way by card	2
	2#	Open door way by card or PIN	
	3#	Open door way by fingerprint	
	5#	Open door way by card and fingerprint	
	6#	Open door way by multi users	
31	(2-10)#	Set 2-10 cards (or fingerprint) together to open door	1
32	0#	Set lock to Delay mode	0
	1#	Set lock to Switch mode	
	2#	Set the lock to Normal-open mode	
33	0#	Disable users to use.	1
	1#	Enable users to use.	
34	0#	Set Open-time to 50mS	2
	(1-999)#	Set Open-time from 1 to 999S	
35	(0-99)#	After opening the door, delay 0-99 seconds to start the tone	10
36	(0-99)#	Set the closing prompt tone for 0-99 seconds.	10
40	0,#	Set the alarm time to 0, means no alarm	0
	(1-99)#	Set the alarm time to 1-99 minutes	
41	0#	Disable anti-dismantle alarm function.	0
	1#	Enable anti-dismantle alarm function.	
43	0#	Normal operate mode	0
	1#	Enable anti-crack alarm function	
	2#	Enable anti-crack locked function	
44	(1-10)#	Set anti-crack wrong time 1-10	10
45	(1-99)#	Set anti-crack locked time 1-99 minutes	10
50	0#	Indicator light is always off	1
	1#	Red indicator light is always on	
51	1,1,…,#	Decrease the brightness of the	18

Menu	Parameter or operation step	Function	Default value
		normally bright red indicator	
	2,2,…,#	Increase the brightness of the normally bright red indicator	
54	0#	Disable the buzzer	1
	1#	Enable the buzzer	
55	1,1,…,#	Decrease the keypad tone	12
	2,2,…,#	Increase the keypad tone	

*Way to enter menu : * (press for more than 2 seconds), (Admin password) #*

5.3 Demo mode management menu summary table

*Way to enter menu : * (Press for more than 2 seconds), (Admin password) #*

Menu	Parameter or operation step	Function	Default value
03	0#	Reader mode	1
	1#	Single-door mode	
	3#	Interlock mode	
	9#	Demo mode	
09	0000#	Restore default settings, operating mode, admin password and user information unchanged.	
32	0#	Set lock to Delay mode	0
	1#	Set lock to Switch mode	
	2#	Set the lock to Normal-open mode	
34	0#	Set Open-time to 50mS	2
	(1-999)#	Set Open-time from 1 to 999S	
51	1,1,…,#	Decrease the brightness of the normally bright red indicator	18
	2,2,…,#	Increase the brightness of the normally bright red indicator	
55	1,1,…,#	Decrease the keypad tone	10
	2,2,…,#	Increase the keypad tone	

6 Precautions in use

➢ Lead line cannot be connected wrong, especially the power line, otherwise the machine may be burned or not work properly.

➢ Because the machine internal relay is used for signal output, cannot directly drive large power load, in order to ensure the long-term stable operation of the machine, the electric lock be not connected directly with NO, NC, COM of the machine, but driven by an access control special power supply.

➢ When you enter the management mode or change the user PIN, you must press and hold the * key for more than two seconds to be valid.

➢ For the sake of safety, the default admin initial password 888888 only support the menu 00, which force users to change the 6-digit admin password, or cannot access other settings.

➢ The factory default mode is the single-door mode. If you need other mode functions, you must enter the appropriate mode to operate properly. In different modes, the management menu is also different.

7 Common troubleshooting

Fault phenomenon	Possible causes	Troubleshooting
Indicator light is not working properly	1. The power line is too thin	Replace thicker, qualified wire
	2. Wrong connection or bad contact of power line.	Wiring in the correct way.
Fail to enter management mode.	1. Press the * key for more than 2 seconds before entering password.	Operate in the right way.
	2. Input wrong admin password.	Enter the correct password.
	3. Forget admin password.	Change by Set-card or press the # key to initialize.
Can enter management mode, but part of the menu is invalid.	1. The machine mode is incorrect, and some of the menus are blocked.	Set to right machine mode.
User card can't open the door	1. It is not valid user card.	Add the user card again.
	2. The user is disable.	Cancel the user disabling mode.
	3. Incorrect door opening setting.	Correct the door opening setting.
Reading card	1. Using the unqualified power	Change to linear power supply or

distance is too close	supply.	connect the housing to the ground.
	2. Part of the electrical lock interference is too large.	Choose the qualified lock or parallel connect a 470uF/25V electrolytic capacitor at the two ends of the lock.
Can't recognize fingerprint	1. Dryness and broken of finger skin	Moisture the finger or change another finger.
	2. Pressing area is too small to sense to activate	Press the finger properly as required.

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