Model W1 - Waterproof Keypad/Reader/Controller

User Manual

User Manual v1.1

W1 Simplified Instruction

Function description	Choose from the relevant functions below and input
Enter the programming mode	*- 888888 - #, then you can do the programming (888888 is the default factory master code)
Change the master code	0 - new code - # - repeat the new code - # (code: 6-8 digit)
Add Password user	1 ID number # Password # (ID number is any digit between 1-2000. Password is any four digits between 0000-9999. It can add Password user continuously)
Add Card user	1– Card - # (can add Cards continuously)
Delete user	2 – User ID- # 2 – Card -# (can delete Users continuously)
Exit from the programming mode	*
How do release the door	
Password User	Press Password #
Card User	Read card

1, Description.

W1 is standalone access controller for single door.

It is in metal shell, which can be available in two kinds: silver light, matt.

W1 is 2000 users' capacity, supports Card, Code, Card + Code. Card type-125KHZ EM card, 4 digits passwords code.

W1 is a high-standard waterproof device. It is suitable to be installed outdoor, and works well even in the water long time under pressure, confirms to IP68.

Besides, it is anti-magnetic, lock output current short protection, Wiegand interface, and keypad backlight, so many good functions make W1 an ideal choice for door access.

Installation: suitable for not only small shops, household, warehouse, labs but also for banks, companies, prisons, factories…..etc.

2, Feature and Specification

Main Feature;

- Waterproof. Works well even put in water.
- Metal shell, anti-vandal
- Full programming from the keypad

- 2000 uses, supports card, Code, Card +code
- Can be used as only keypad;
- Backlight keys

- Wiegand 26 input, wiegand 26 output.
- Besides working standalone, it can be connected to other controller as slave reader
- 2 pcs W1 can interconnect; 2 pcs W1 can be interlocked
- Can be connected many kinds of card readers, such as HID, Mifare and so on;

- One programming MOS output
- Adjustable Door relay time, Alarm time, Door Open Detection.

- Very low power consumption(20Ma)
- Full of 2000 users, recognizing speed <20ms.
- Anti-magnetic & lock output current short protect;
- So easy for connection of the lock: only 2 wires output, selecting lock type by programming menu;

- Build-in light dependent resistor for Anti-demolition, built buzzer
- Red, Yellow and Green LEDS display the working status
- Two years' warranty

Specification:

Operating Voltage	12V DC
User capacity	2000
Keypad	12 keys, 2*6 digits
Card type	125KHZ EM card
Card reading distance	3-6 CM
Active Current	＜60MA
Idle Current	25±5Ma
Lock output load	20A
Alarm output load	20A
Operating Temperature	$-20 \sim 60℃$
Operation Humidity	5%- 95%RH
Environment	Confirms to IP68, dustproof and waterproof from putting in the water for long time under pressure
Adjustable Door relay time	0 -99 seconds
Adjustable Alarm time	0- 3 minutes
Wiegand interface	Wiegand 26
Wiring connection	Electric Lock
	Exit button
	Door open detection
	External Alarm
Dimension	L135* W58* H26mm
Nest Weight	550g
Gross Weight	700g

3. Installation

3.1 Install and Wire
● Open the backshell from the front cover.
● Drill 4 holes on the wall for screws and I hole for cable
● Fix the backshell firmly on the wall with 4 flat head screws
● Thread the cable through the cable hole, wiring, and plug and cable harness
● Attach   the   front   cover   to   the   backshell.

PCB connect diagram

PCB connect diagram
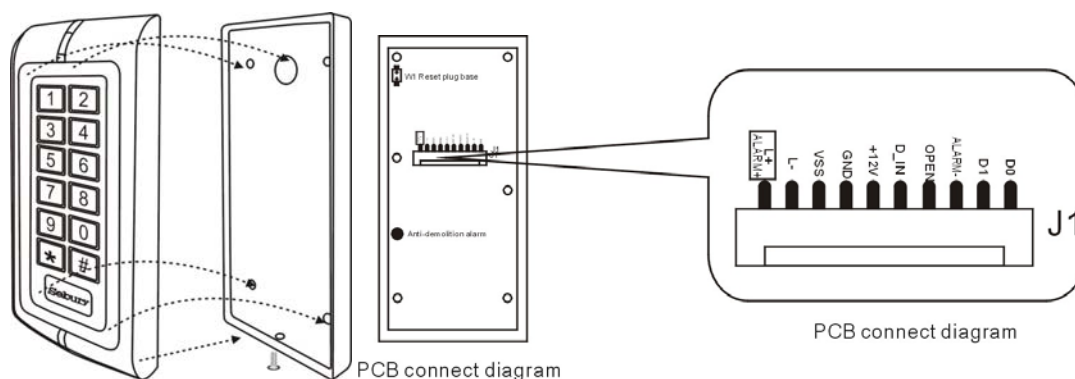
3.2 Wire connection
Wire Connector function

|			
1	D0	Yellow	Wiegand output, input signal wire D0
2	D1	Blue	Wiegand output, input signal wire D1
3	ALARM	Brown	onnecting to the negative pole of the alarm equipment
4	OPEN	Purple	To connect to one part of Exit Button
5	D_IN	Grey	Door Contact input,
6	12V	Red	(+) 12Vdc Positive Regulated Power Input
7	GND	Black	(-) Negative Regulated Power Input
8	VSS	White	the negative pole of the controller, connect to the other part of Exit button and door contact
9	L-	Green	Connect to the negative pole of the Lock
10	L+/Alarm+	Orange	Connect to the positive pole of the lock and alarm equipment

Connection diagram
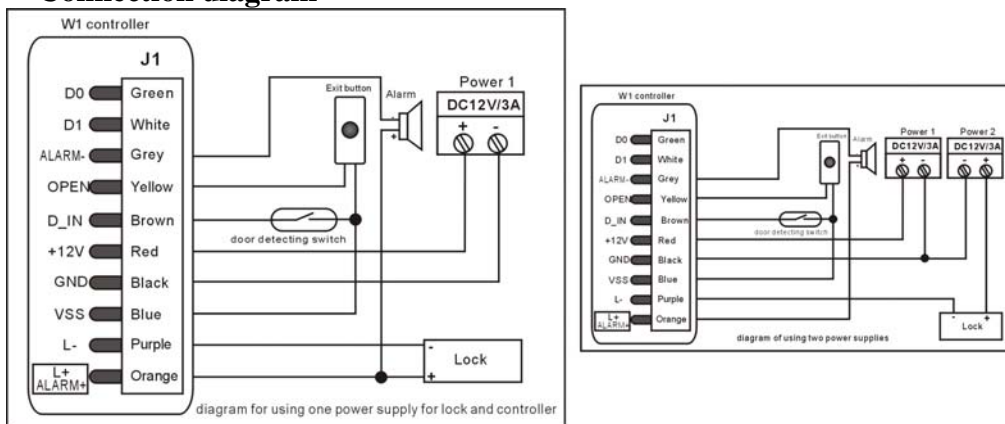
Remark:

W1 can connect both types of locks directly, no matter it's Fail Secure (unlock when power on) or Fair Safe (unlock when power off). Please check Manager Operation Item 4.5 for lock setting.

3.3 Intramural interface circuit
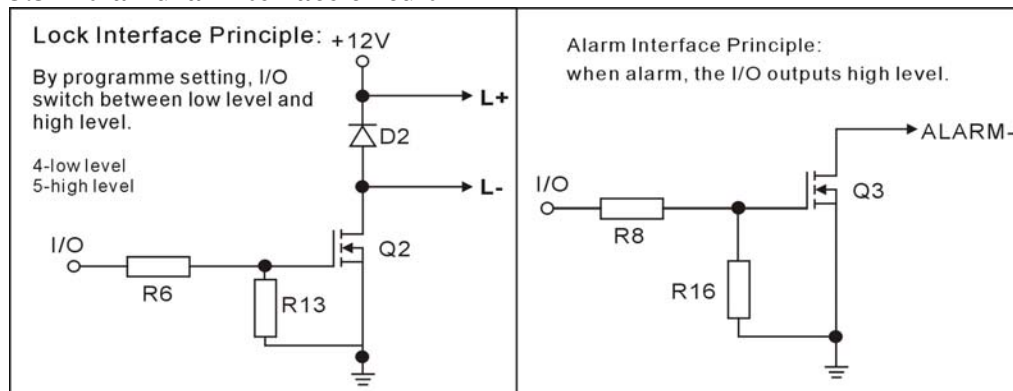
3.4 Method of Reset to Factory default setting

To reset to factory default setting, power off, open the back cover, take off the waterproof adhesive tape on the top right, you will see a 2P plug base. Then put the Contact Pin into it, power on, you will hear three beeps, it means reset to factory default setting successfully.

Power off, take out the Contact Pin, and stick the waterproof adhesive tape well.

3.5 About Anti-demolition Alarm

W1 uses LDR (light dependent resistor). If the device is open, the LDR contacts with the external light, it will alarm.

4, Manager Operation

Enter into programming mode:

| * | | Manager Password | | # | . Default Manager Password: 888888

Change Manager Password：

| 0 | | New Password # | | Repeat New Password # |

The manager password must be 6～8 digit number.

Remarks: All steps below must be done after entering into programming mode.

Setting working mode:

| 3 | | 0 | | # | **Valid card users only**

| 3 | | 1 | | # | **Valid card and password users**

| 3 | | 2 | | # | **Valid card or password users** (factory default setting)

4.1 Valid card or password users (factory default setting) - | 3 | | 2 | | # |

Remarks: in this mode, the user is valid either by card or password.
The device can be used as only keypad.

4.1.1 Add Password users

| 1 | | ID number | | # | Password | # |

Remarks: ID number is any digit between 1-2000. Password is any four digits between 0000-9999.

To add password user continuously

| 1 | | ID number 1- # - Password 1- # | | ID number 2- # - Password 2- # |
... | # |

4.1.2 Add card users
   Two ways to add card users,
   No. 1-the fast way (ID number auto generation)
   `1` `Card` `#` Or
      `1` `the Card Number (8 digit)` `#`
   Remark : To add more than one card, just input cards or Card number continuously

   Note: when add card users, it can just enroll the card number and don't have to enroll
      the card itself. The card number is the 8 digit printing on the card.
       In the same way, when delete card users, it can just enroll the card number to delete
      it and don't have to get the card if it is lost.

   No.2-By user ID one by one (ID number Appointment)
   `1` `ID number` `#` `Card` `#` Or
   `1` `ID number` `#` `the Card Number (8 digit)` `#`
   Remark：ID number can be any digit between 1-2000, but one ID to
   one card.
   Press `#` means confirm, Press the last `#` means finish the step,
   Press `*` to exit from the step.

   4.1.3 User operation
   In this mode, the user can enter either by card or by password.
   For card user, read card to enter in.
   For Password user, press `Password` `#` to enter in.

   Remarks: the Password user can change his password himself
   `*` `ID number – #` `Password` `#` `New Password` `#` `Repeat Password`
   `#`

4.2 Valid Card users only. (`3` `0` `#` **)**
   To add card users, it is the same like 4.1.2
   In this mode, the user can only enter in by card.

4.3 Valid Card and Password users only. (`3` `1` `#` **)**
Firstly, like 4.1.2, add cards, press `*` to exit from the programming mode.
Then by card to set the password,
`*` `Read card` `1234` `#` `New Password` `#` `Repeat Password` `#`
(Password is any four digit between 0000-9999)
Now the card and password have been programmed successfully.

In this mode, the user can only enter in by Card and password.
To enter in: `Read card` `Password` `#`

If the user wants to change the password, he can make it himself

| ✳ | Read card | Password | # | New Password | # | Repeat Password | # |

4.4　Delete Users：
4.4.1 Delete Card users

| 2 | Read Card | # | **OR** | 2 | Card number | # |

To delete card user continuously, just input card or card number continuously.

If delete card user by ID

| 2 | User ID | # |

Remarks: When delete card users, the Master can just delete its ID number and don't have to read card. It is good option if the user was left or card lost.
4.4.2 Delete Password users

| 2 | User ID | # |

4.4.3 Delete card+ password users
To delete card and password users, just deleting the card is OK.
To delete the card, please follow 4.4.1.

4.4.4 Delete all the users

| 2 | 0000 | # |

Note: this will delete all users enrolled. Before this operation, it is suggested to make sure the data is un-useful.

4.5 Lock style setting and door relay time setting

Fail secure (unlock when power on) : | ✳ | **manager password** | # | 4 | 0～10 | # | ✳ |

Fail safe (unlock when power off): | ✳ | **manager password** | # | 5 | 1～10 | # | ✳ |

Remarks: In programming mode, press 4 is to choose Fail secure lock, 0-10 is to set door relay time 0-10 seconds; press 5 is to choose Fail safe lock, 1-10 is to set door relay time 1- 10 seconds. (Factory default setting is Fail safe lock, relay time 5 seconds.)

4.6 Setting Door open dection

| 6 | 0 | # | to disable this function (factory default setting)

| 6 | 1 | # | to enable this function

When enable this function:
a) If open the door normally, but not closed after 1 minute, the inside Siren will alarm automatically, the alarm will be off itself after 1 minute
b) If the door is opened force, or the door is opened after 20 seconds of lock released, the inside Buzzer and outside Siren will both alarm.

4.7 Setting Security Status

Normal status: `7` `0` `#` (Factory default setting)

Lock on status: `7` `1` `#` In 10 minutes, if there's 10 times invalid card or wrong
Password, the device will lock on for 10 minutes.

Alarm status: `7` `2` `#` In 10 minutes, if there's 10 times invalid card or wrong
Password, the device will alarm.

4.8 Two devices interlock setting

`8` `0` `#` to disable this function (factory default setting)

`8` `1` `#` to enable this function

4.9 Setting Alarm signal output time

`9` `0~3` `#`

Alarm time is 0-3 minutes, factory default setting 1 minute.

4.10 Save and Exit from the programming mode.

When finished the setting, press `*` at last to save and exit from the programming
mode.

5. Remove Alarm

5.1 Alarm from the Alarm equipment and Buzzer built-in

To remove it: `Read valid card` **OR** `Manager Password – #`

3.2 Alarm to close the door

To remove it: Close the door OR `Read valid card` **OR** `Manager Password – #`

6, Sound and Light indication

Operation Status	Red Light	Green Light	Yellow Light	Buzzer
Power on	–	Bright	–	Short Ring
Stand by	Bright	–	–	–
Press keypad	–	–	–	Short Ring
Operation succeed	–	Bright	–	Short Ring
Operation fail	–	–	–	Three short ring
Enter into programming mode	Bright	–	–	Short Ring
In the programming mode	–	–	Bright	–
Exit from the programming mode	Bright	–	–	Short Ring
Open the door	–	Bright	–	Short Ring
Alarm	Bright	–	–	Alarm

7，Packing List

Name	Quantity	Remarks
Digital Keypad-W1	1	
User manual	1	
Screw Driver	1	
Pastern Stopper	4	6*27mm, used for fixing
Self Tapping Screws	4	3.5*27mm, used for fixing
Contact Pin	1	Used for factory default setting

Two devices interconnected Function

1, W1 Works as slave reader, connecting to Controller – Finger 1

W1 supports wiegand output, it can be connected to any controller which supports wiegand 26 input as its slave reader, the connection diagram is as figure 1
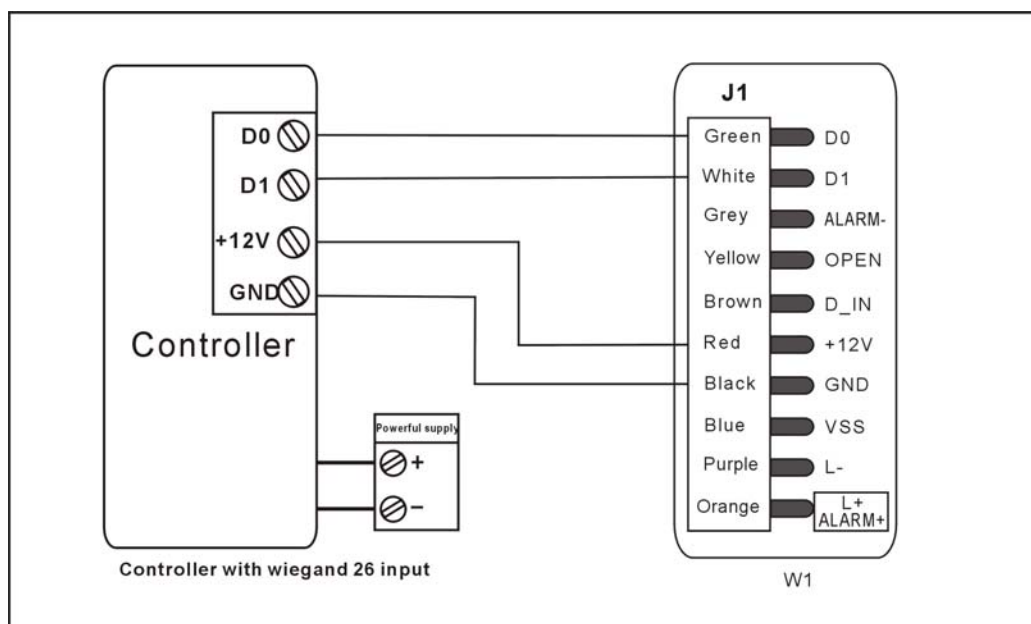
Finger 1

2, W1 works as Controller, connecting slave reader – Finger 2

W1 supports wiegand input, any card reader which supports wiegand 26 output can connect to it as its slave reader, no matter it is ID card or IC card. The connection is showed as Finger 2. when add cards, it is required to do it at the slave reader, but not controller(except EM card reader, which can be added on either reader or controller)
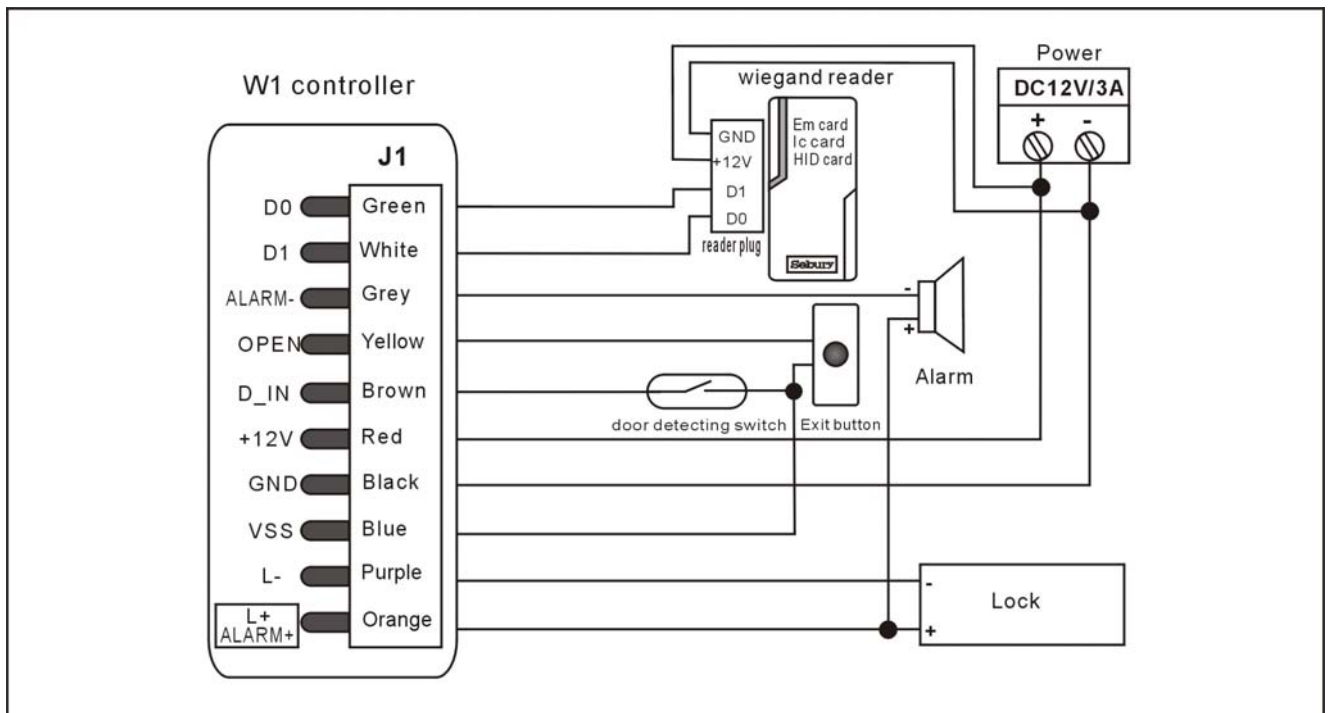

figure 2

3. Two W1 interconnected - single door Finger 3

Wiegand output, Wiegand input: The connection is showed as Figure 3. One W1 installed inside the door, the other outside the door, two devices interconnect. Either device acts as the controller and reader at the same time. It has below feature:

3.1 Users can be enrolled on either of the device. The information of the two devices can be communicated. In this situation the user capacity for one door can be up to 4000. Each user can use fingerprint or password for access.

3.2 The setting of the two W1 must be the same. If the master password was set different, the user enrolled in the outdoor unit can't access from outside.
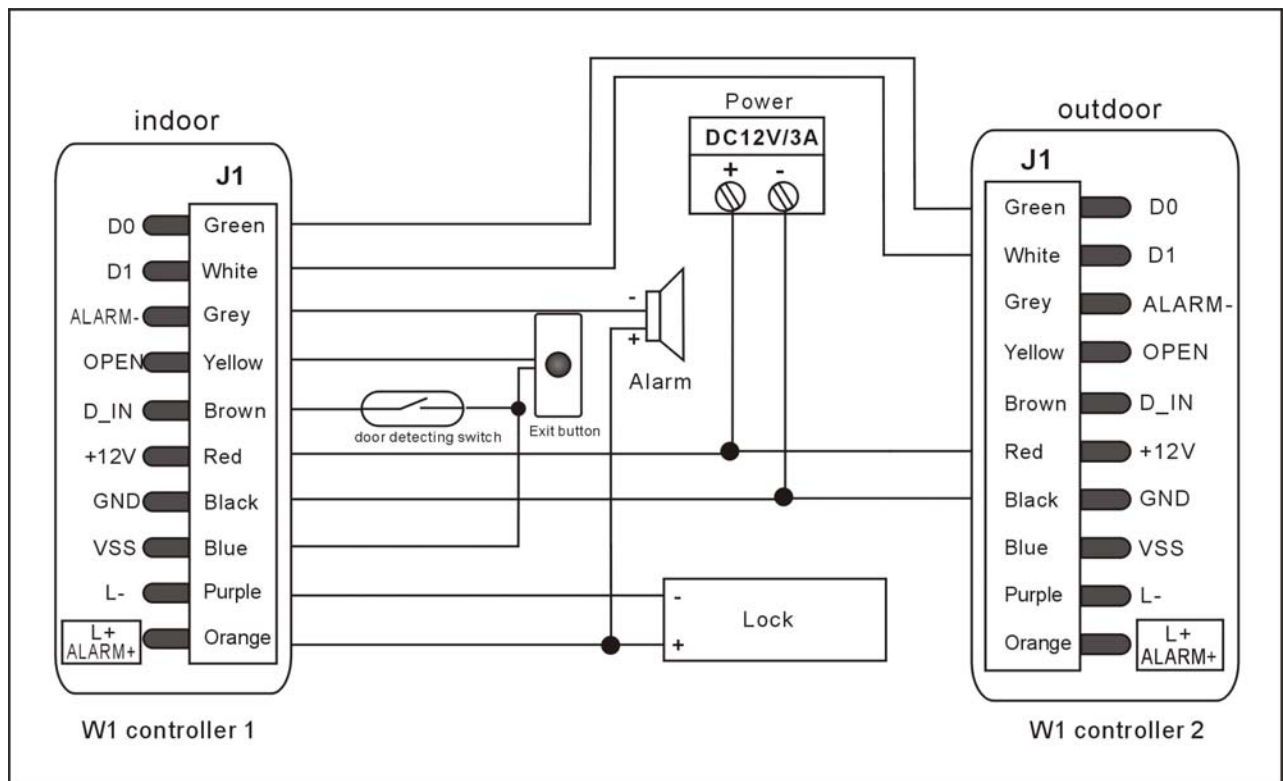

figure 3

4. Two W1 interconnected & interlocked – two doors   Finger 4

The connection is showed as Figure 4, for the two doors, each door install one controller-W1 and one lock related. The interlocked function will go when either door is opened, the other door is locked forced, only close this door, the other door can be opened.

The interlocked function is mainly using in bank, prison, and other places where require higher security. Two doors are installed for one access.

The user enters Password or card on controller 1, the door 1 will open, the user enters, and close door 1, only after that, the user can open the second door by entering Password or card on second controller.
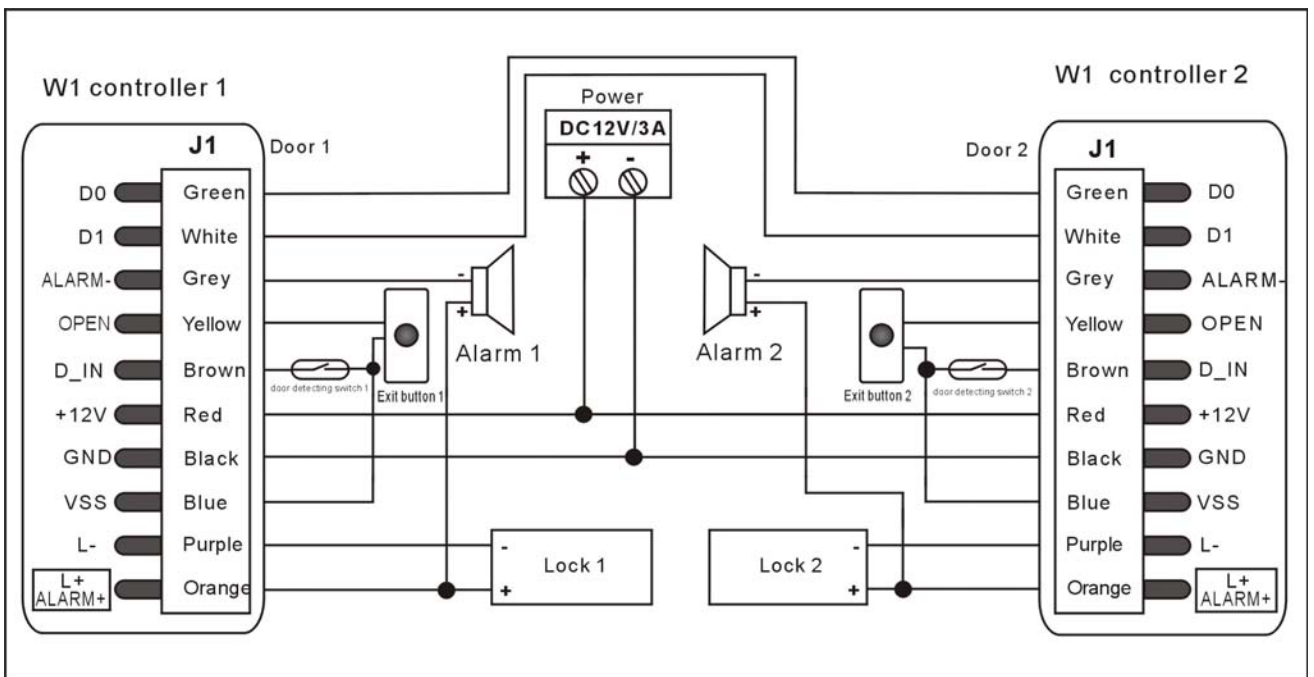

figure 4