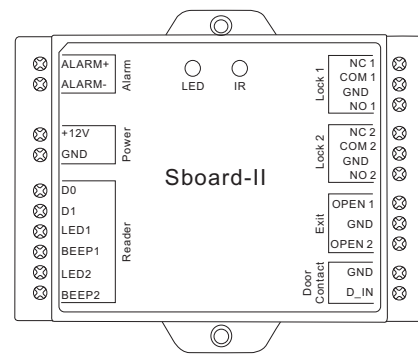


## Dual-relay Control Board Sboard-II



User Manual

### INTRODUCTION

The Sboard-II is a dual-relay door control panel, can work with any Wiegand 26-37 bits output reader. It uses Atmel microcontroller to assure stable performance, and equips with an infrared remote control and master cards for easy operation. The Sboard-II supports 2,100 users, all user data can be transferred. And it has optional function-supports Wifi communication, can remote unlock the door by phone/pad, very convenient.

### Features

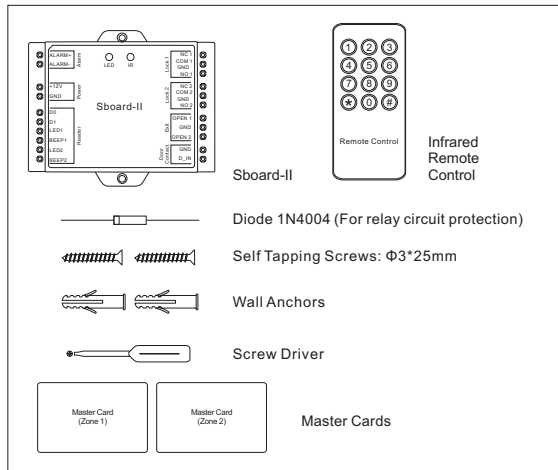
- > 2-relay, 2,100 users
- > Multi access modes: Card, Card or PIN, Card with PIN, multi Cards/PINs, by Phone/Pad (Optional)
- > Can connect with any reader with Wiegand 26-37 bits output
- > Can connect with any keypad reader with 4bits, 8bits (ASCII), or 10 digits virtual number output
- > Pulse mode, toggle mode
- > Support Master Cards function
- > Support setting Authorizing Cards
- > Support setting Panic users
- > Integrated door contact detection and alarm output

### Specifications

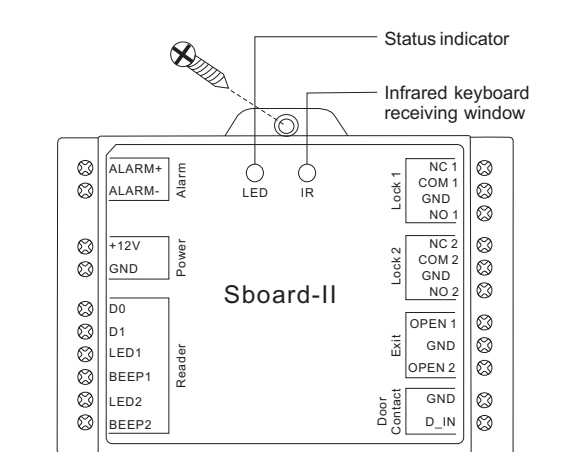
<b>User Capacity</b>	2,100
Zone 1	2,000
Zone 2	100
<b>Operating Voltage</b>	12V DC
Idle Current	<30mA
Idle Current (With Wifi)	100mA
<b>Relay</b>	2
Adjustable Relay Output Time	1-99 Seconds (5 seconds default)
Lock Output Load	2 Amp Maximum
<b>Wiegand Interface</b>	
Input	Wiegand 26-37 bits
Output	Wiegand 26-37 bits (for user transfer)
<b>Environment</b>	
Operating Temperature	Indoor -40°C~50°C (-40 F~140 F)
Operating Humidity	0~90%RH

<b>Physical</b>	<b>ABS Shell</b>
Colour	Black
Dimensions	L100mm * W86mm * D26mm
Unit Weight	110g
Shipping Weight	180g

### Carton Inventory



### INSTALLATION



### Wiring

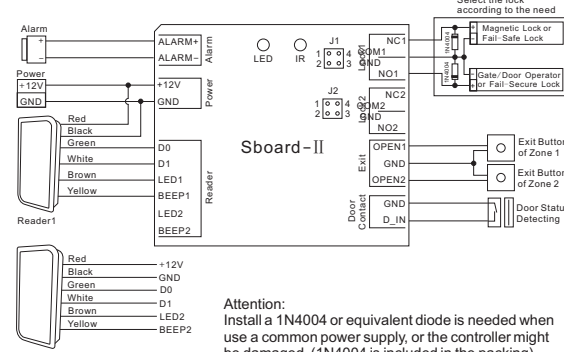
Name	Notes
The Left Side	
Alarm+	Positive Pole of Alarm
Alarm-	Negative Pole of Alarm

+12V	Positive Pole of Power Input
GND	Negative Pole of Power Input
D0	Wiegand Input Data 0
D1	Wiegand Input Data 1
LED1	Green LED Light Control of Reader 1
BEEP1	Sound Control of Reader 1
LED2	Green LED Light Control of Reader 2
BEEP2	Sound Control of Reader 2

The Right Side	
NO1	Normally Closed Relay Output (Install diode provided)
COM1 (GND)	Negative Pole of Lock 1 (Common Connection for Relay Output)
NO2	Normally Open Relay Output (Install diode provided)
COM2 (GND)	Negative Pole of Lock 2 (Common Connection for Relay Output)
NO2	Normally Open Relay Output (Install diode provided)
OPEN1	Connect to One Wire of Exit Button 1
GND	Connect to One Wire of Exit Button 1 & 2
OPEN2	Connect to One Wire of Exit Button 2
GND	Negative Pole of Door Contact
D_IN	Door Status Detecting

Operation Status	LED	Buzzer
Stand by	Red light bright	—
Enter into programming mode	Red light shines	One beep
In the programming mode	Orange light bright	One beep
Operation error	—	Three beeps
Exit from the programming mode	Red light bright	One beep
Open lock 1	Green light bright	One beep
Open lock 2	Blue light bright	One beep

### Connection Diagram



### When Use NO/NC/COM Dry Contact Output

- Remove the Pin Caps on points 1, 2, 3, and 4 (Remark: J1 (Relay 1) & J2 (Relay 2), please check the relay you are using)
- Insert one of the Pin Caps on point 1 and point 4
- Fix the back cover, and keep the other Pin Cap well

**Remark:**  
The power supply's voltage must be the same with lock's supply voltage, or else, the lock will not work properly or be damaged.

**Reset to Factory Default and Master Cards Programming**  
To reset to factory default, power off, press the Exit Button 1 (or connect "OPEN 1" and "GND" to be short circuit), hold it and power on, there will be two beeps, and the LED light turns into orange, release the Exit Button 1 (or disconnect "OPEN 1" and "GND"), then read master cards or any 2 cards on the external reader, the LED will turn into red, means reset to factory default successfully. Of the two cards read, the 1<sup>st</sup> one is Master Card for Zone 1, the 2<sup>nd</sup> one is the Master Card for Zone 2.

- Remarks:**
- The type of the Master Cards is according to the external reader. For example: the external reader is 125KHz HID Reader, then the Master Cards must be 125KHz HID cards. The Master Cards included in the standard packing are EM cards. If your reader is HID reader/Mifare reader, you can set another two HID/Mifare cards as Master Cards instead. The programming is same as above.
  - If no Master Cards added, must press the Exit Button for at least 10 seconds before release.
  - Reset to factory default, the user's information is still retained.

### PROGRAMMING

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

**Programming 1** ----- **Configure the Sboard-II**  
Please use the Infrared Remote Control to program the Sboard-II. The "IR" on the Sboard-II is the infrared receiving window, please direct the Remote Control to it.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) # (Factory default is 123456)
2. Exit Program Mode	*

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

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Wiegand Input Bits	8 (26-37) # (Factory default is 26 bits)
3. Exit Program Mode	*

Remark: Sboard-II can work with any Wiegand readers of 26-37 bits, please set the Sboard-II to the right Wiegand format according to your reader.

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 Program Mode	*

Remark: This step is only for the keypad reader. 4 means 4 bits, 8 means 8 bits (ASCII), 10 means 10 digits virtual number.

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

2. Pulse Mode	5 1 (1-99) # - Zone 1 5 2 (1-99) # - Zone 2 The relay time is 1-99 seconds. (1 is 50ms) (Factory default is 5 seconds)
OR	
2. Toggle Mode	5 1 0 # - Zone 1 5 2 0 # - Zone 2 Sets the relay to ON/OFF Toggle mode
3. Exit Program Mode	*

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Card access	6 1 0 # - Zone 1 6 2 0 # - Zone 2
2. Card + PIN access	6 1 1 # - Zone 1 6 2 1 # - Zone 2
2. Card or PIN access (Factory default)	6 1 2 # - Zone 1 6 2 2 # - Zone 2
2. Multi cards/PINs access	6 3 (2-9) # - Zone 1 6 4 (2-9) # - Zone 2
3. Exit Program Mode	*

**Set Door Detecting**  
Door Open Too Long (DOTL) warning: When used 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 beep automatically to remind people to close the door and continue for 1 minute before switching off automatically.

Door Forced Open warning: When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened by force, or if the door is opened after 60 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate. The Alarm Output time is 1 minute.

Programming Step	Keystroke Combination
1. Enter Program Mode	Input (Master Fingerprint / Card)
2. Door Contact OFF	* 7 0 # (Factory default)
2. Door Contact ON	* 7 1 #
3. Exit Program Mode	*

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Strike-Out OFF	7 4 # (Factory default)
OR	
2. Strike-Out ON	7 5 # (Access will be denied for 10 minutes)
OR	
2. Strike-Out ON (Alarm)	7 6 # (Alarm time factory default is 1 minute)
Enter Master code # or valid user card/PIN/ Fingerprint to silence	
3. Exit Program Mode	*

### Programming 2 ----- Program Users

**GENERAL PROGRAMMING INFORMATION**  
User ID number: Assign a user ID to the access code in order to keep track of the users. The common user ID number can be any number from 1-2000 (Zone 1) and 2001-2100 (Zone 2).  
**IMPORTANT:** User IDs do not have to be proceeded with any leading zeros. Recording of User ID is critical. Modifications to the user require the User ID be available.  
PIN: Can be any 4-6 digits except 8888 which is reserved.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card: Using Auto ID (Allows Sboard-II to assign Card to next available User ID number)	1 (Read Card on External Reader) # - Zone 1 2 (Read Card on External Reader) # - Zone 2 Cards number must be consecutive, Card quantity = number of card to be enrolled
2. Add Card: Select Specific ID (Allows Master to define a specific User ID to associate the Card to)	1 (User ID) # (Read Card on External Reader) # - Zone 1 2 (User ID) # (Read Card on External Reader) # - Zone 2 The user ID for Zone 1 is any number from 1-2000, user ID for Zone 2 is 2001-2100
2. Add Card: by Card Number	1 (Input 8/10 digits Card number) # - Zone 1 2 (Input 8/10 digits Card number) # - Zone 2
2. Add Card: Block Enrollment (Allows Master to add up to 2,000 cards (Zone 1) to the Reader in a single step.)	9 ( User ID number ) # (Card quantity) # (The first 8 / 10 digits card number) # Enter Master code # or valid user card/PIN/ Fingerprint to silence
3. Exit Program Mode	*

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add PIN User:	1 ( User ID ) # ( Input PIN ) # - Zone 1 2 ( User ID ) # ( Input PIN ) # - Zone 2 The user ID is any number from 1-2000 for Zone 1, 2001-2100 for Zone 2 ( PIN: 4-6 digits )
3. Exit Program Mode	*

**Add Fingerprint User**  
For example: Connect F2 as the Fingerprint reader to Sboard-II, two steps to enroll the valid Fingerprint.  
(1) Add the Fingerprint (A) on F2  
(2) Add the same Fingerprint (A) on Sboard-II as below:

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Fingerprint	1 (User ID) # (Press Fingerprint A on F2) - Zone 1 2 (User ID) # (Press Fingerprint A on F2) - Zone 2
3. Exit Program Mode	*

### Delete User Card(s) or PIN(s) or Fingerprint(s)

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Delete User - By User ID	3 (User ID) # - Zone 1 4 (User ID) # - Zone 2
OR	
2. Delete User - By Card	3 (Read Card on External Reader) # - Zone 1 4 (Read Card on External Reader) # - Zone 2
OR	
2. Delete User - By Card number	3 (Input 8/10 digits Card number) # - Zone 1 4 (Input 8/10 digits Card number) # - Zone 2
OR	
2. Delete All User	3 (Mater Code) # - Zone 1 4 (Mater Code) # - Zone 2
3. Exit Program Mode	*

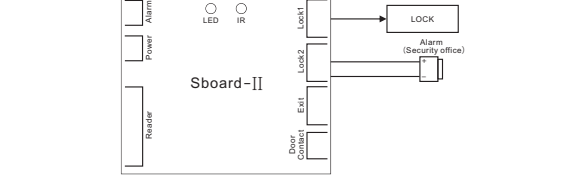
Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Fingerprint	1 (User ID) # (Press Fingerprint A on F2) - Zone 1 2 (User ID) # (Press Fingerprint A on F2) - Zone 2
3. Exit Program Mode	*

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Change the card associated PIN (There will auto associate PIN (8888) to cards when adding card users)	* (Read Card) (Old PIN) # (New PIN) # (PIN: 4-6 digits)
2. Change the users' PIN	* (ID Number) # (Old PIN) # (New PIN) # (PIN: 4-6 digits)
3. Exit Program Mode	*

**Programming 3** ----- **Advanced Application**  
**Set Panic User**  
Relay 1 connects to electric lock, Relay 2(NO2 & COM2) connects to Alarm or Security office as below figure. Then enroll same Card/PIN/Fingerprint to both Zone 1 and Zone 2, the enrolled users will be Panic Users. (The method of enrolling user, please refer to page 10 & 11.)

When people are under duress, they can use the Panic Card/PIN/Fingerprint, in this situation, the door will open, at the same time, the output alarm operates.

To delete the Panic User, should delete the user of both zones.



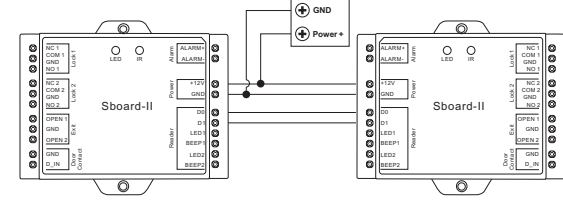
**Set Authorizing Cards**  
Authorizing Cards are cards can set the permissions of ALL users, total 2pcs, one for Zone 1, and another for Zone 2.

Read Authorizing Card of Zone 1, the LED of Sboard-II and external reader blinks 4 times in green, all users of Zone 1 are unable to open door 1, read it again, the green LED blinks 1 time, the enrolled users can entry door as normal.  
Read Authorizing Card of Zone 2, the LED of Sboard-II blinks 6 times in blue, and LED of external reader blinks 6 times in green, all users of Zone 2 are unable to open door 2, read it again, the blue LED blinks 1 time, the enrolled users can entry door as normal.

Remark: Authorizing Cards cannot be used to open door.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Read Card	1 2000 # Read Card- Zone 1 2 2100 # Read Card- Zone 2 (2000 is User ID of Zone 1, 2100 is User ID of Zone 2, which is reserved for Authorizing Cards)
3. Exit Program Mode	*

**User Information Transfer**  
The Sboard-II supports the User Information Transfer function, and the enrolled user (cards, PINs) can be transferred from one (let's name it Master Unit) to another (let's name it Accept Unit). Maximum 10pcs Accepts Units can be transferred once.



- Connection Diagram:**
- Remarks:**
- The Master Unit and Accept Units must be Sboard-II, or Sboard, or S1234-X.
  - The Master Code of the Master Unit and the Accept Unit(s) must be set to the same.
  - Program the transfer operation on Master Unit only.
  - If the Accept Unit(s) are already with the users enrolled, it will be covered after transfer.
  - For full 2,100 users enrolled, the transfer takes 3 minutes.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Set transferring	7 9 #
3. Exit Program Mode	*