

S601 Series metal access control Manual

1.Description

S601 is a standalone for single doors, support card, pin, card+pin access way. It supports up to 2000 users in total,each user can possess one card and one pin.

It can directly drive Lock,Alarm,Ring Bell,and also can connect with Exit Button and Door Contact.

It also supports 1 Master code,2 Manager card, 2 Anti-duress Card users and 2 Anti-duress PIN users, providing users with easy operations and safety reliability.

2.Features

- 1.Pure Zinc alloy case
- 2.Built-in 125KHz OR 13.56MHz card reader
- 3.Perfect digital backlit key,the back light can be set to Normal ON,Normal OFF or Human-Approach ON
- 4.With anti-tamper Alarm,door contact Alarm,Anti-duress Alarm function
- 5.Add and delete card user quickly With Manager cards
- 6.Can register and delete user via keypad
- 7.Master can open the door when entering the setting status
8. Multi working modes: reader,one door,two door, interlock, anti-passback and so on, suitable for many occasions

3.Specification

Input Voltage AC/DC 12V

Idle Current<25mA

Lock output load<1A

Alarm output load<1A

Ring bell load<1A

Card reading distance 40mm Max

Card Frequency: 125KHz for EM and HID

13.56MHz for Mifare

Card transmission format 26-37 bit wiegand

Keypad transmission format:4bit,8bit and Virtual card number

Operating Temperature:-45°C~55° C

Operating Humidity:0%~95%

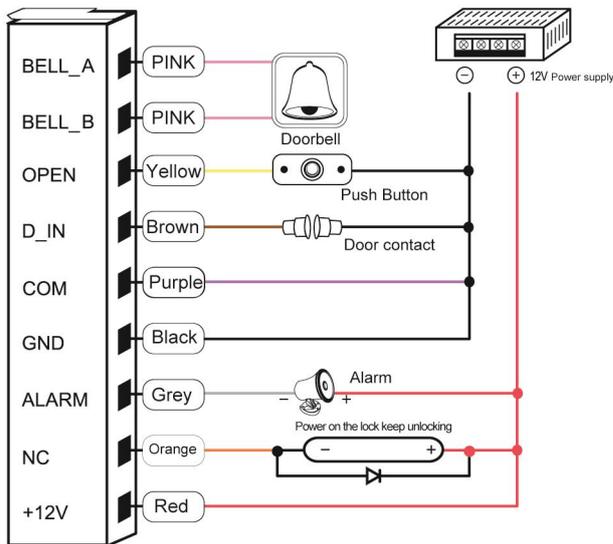
4.Installation

- Remove the back cover from the keypad using the supplied special screw driver
- Drill 2 holes on the wall for the Self tapping screws and 1 hole for the cable
- Put the supplied rubber bungs to into the two holes
- Fix the back cover firmly on the wall with 2 Self tapping screws
- Thread the cable through the cable hole
Attach the keypad to the back cover.

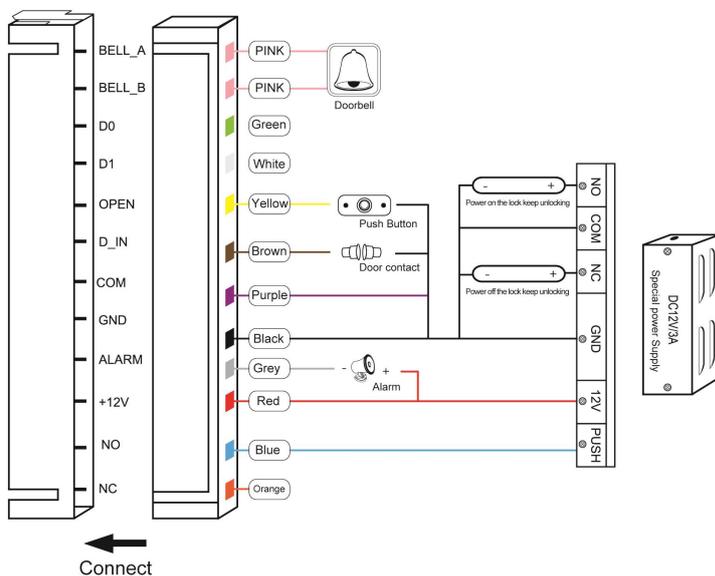
5. Wiring

Colour	Function	Description
Pink	BELL_A	Doorbell button one end
Pale blue	BELL_B	Doorbell button to the other end
Green	D0	WG output D0
White	D1	WG output D1
Grey	ALARM	Alarm negative(alarm positive connected 12 V+)
Yellow	OPEN	Exit button one end(the other end connected GND)
Brown	D_IN	Magnetic switch one end(the other end connected GND)
Red	12V+	12V + DC Regulated Power Input
Black	GND	12V - DC Regulated Power Input
Blue	NO	Relay normally-on end(Connect positive electric lock "-")
Purple	COM	Relay Public end, connect GND
Orange	NC	Relay Closed end(connect negative electric lock "-")

common power supply diagram:



special power supply diagram:



6.Sound and Light Indication

Operation	LED Color	Buzzer
Standby	Red flash	
Press key		Di
Read card	Green	Di-
Door 1 Open	Green	Di-
Operation Successful	Green	Di-
Operation Failed		DiDiDi
PIN Inputting	Red	
Card&PIN Reading	Red	
Multi Card Reading	Red	
Under Menu	Red	
Under Setting	Orange	
Manager Card Enter	Orange	DiDi
Manager Card Exit	Red Flash	Di-
Alarm	Red Quick Flash	Alarm

7 Quick Programming Guide

7.1 Administrator Setting

Standby	Master Code	Menu	Setting	Remarks	Functions
Red Flash	Red	Red	Orange		
*	Master code#	00	New master code# Repeat new master code # (Note:Code length:6-8 digits)	Factory default:999999	Change the master code
		01	Read Manager Add Card		Set Manager Add Card
		02	Read Manager Delete Card		Set Manager Delete Card
		03	Read Anti-duress card		Set Anti-duress card
		05	Anti-duress PIN#		Set Anti-duress PIN
		07	0000#		Delete All Users
		51			Master open Lock

7.2 User setting

Standby	Master Code	Menu	Setting	Remarks	Functions
Red Flash	Red	Red	Orange		
*	Master code #	11	Read card User ID number# read card Card number# ID number#card number# User ID number#PIN#	Users can be added continuously without exiting programming mode	To add card users To add PIN users
		12	Read card User ID number# Card number#	Users can be deleted continuously without exiting programming mode	To delete users
		13	0# 1# 2#	Default 2	Entry by Card Entry by card+PIN Entry by either Card or PIN
		14	0-99#	Default 5	Set door relay time
		15	0# 1#	Default 0	Relay Setting-Pulse mode Relay Setting-Toggle mode
		16	1-10#	Default 1	To set open door by multi cards
		17	User ID number#,card number#,card quantity#		To add a series cards users

7.3 System Setting

Standby	Master Code	Menu	Setting	Remarks	Functions
Red Flash	Red	red	orange		
*	Master code #	30	0-15#	Default 0	To set facility code
		31	0#	When device reset to factory default ,the setting is still valid	Wiegand reader
			1#		Standalone for single door (Factory default setting)
			5#		Anti-passback for single door
		32	26-37#	Default 26	To set Wiegand format
		33	0-2#	When device reset to factory default ,the setting is still valid	To set keypad transmission format
		34	1-3#	Default 1	To set alarm time
		35	0#	Default 0	Safe mode 0
			1#		Safe mode 1
			2#		Safe mode 2

7.4 User optional setting

Standby	Master Code	Menu	Setting	Remarks	Functions
Red Flash	Red	red	orange		
*	Master code #	41	0#		Buzzer will be in silence except enter the programming mode
			1#	Default 1	Buzzer will sound when press the key
		42	0#		Disable keypad backlight
			1#		Enable keypad backlight
			2#	Default 2	Automatic mode,Normally it is off(sleeping mode) but wake up with human approach
		43	0#		LED Light Disable when stand-by status
			1#	Default 1	LED flash when stand-by status

Instruction:

- 1.Master code must be 6-8 digits, Anti-duress PIN must be 8 digits,user PIN is 4-6 digits.
- 2.The user ID number is any number among 1-2000,Invalid 0 can be omitted; card number must be 8 or 10 digits,if the card number is less than 8 or 10 digits, input 0 before the card number.
- 3.Door open time is 0-99 second,0=50mS
- 4.when register one card user into the device, the device will automatically generate a PIN 1234 , this PIN cant open the door .
- 5.when an invalid master pin is pressed the device will go back to the standby status after 5 seconds, when a valid PIN is entered it will go back to standby status after 30 seconds.
- 6.in operating the keypad, pressing # means to confirm the input digits ,In operation of a cycle adding or deleting cards, pressing # means to end the cycle operation and back the up operation; pressing * means to exit the operation.
7. When add a series cards, this unit will make the ID number and card number initial value; after adding one user, then it will increase the ID number and card number automatically ,Until the specified number of card is added.the card number must be consecutive card quantity is between 1-2000.
8. Working mode and keypad transmission format have been set before shipping, customer can change according to requirement, but when device reset to factory default, the setting is still valid.

8. Administrator setting

Administrator setting on keypad

Press factory default:999999,

8.1 Change the master code

Press

Note: Master Code length:6~8 digits

8.2 Set Manager card

Set manager add card

Press

Set manager delete card

Press

Note: when add the new manager card, the new one will automatically cover the old card, only one manager card for one device

8.3 Set Anti-duress card

Set Anti-duress card

Press

Note: when add the new anti-duress card, the new one will automatically cover the old card, only one anti-duress card for one device

8.4 Set Anti-duress PIN

Set Anti-duress PIN

Press

Note: when set the new anti-duress PIN, the new one will automatically cover the old anti-duress PIN, only one anti-duress PIN for one device

8.5 Delete all users

Press

Note: All will be deleted. This is a dangerous option, so use with care.

8.6 Set administer to open lock

Set administer to open the lock

Press

8.7 Users setting

8.7.1 read card to add user

Press ...

8.7.2 use ID Number and read card to add user

Press

8.7.3 use card number

Press

Note: 1.Card number must be 8 or 10 digits, if the card number is less than 8 or 10 digits, input 0 before the card number

2.Automatically increases, the user ID will be generated by the machine automatically, the range is 1 ~ 2000, and automatically search from 1 to 2000

8.7.4 Use ID number and card number to add user

Press

Note:1.ID number is 1~4 digits, the range is 1~2000, 1,01,001,0001, all these mean ID number 1.

2.add card user will generate one "1234" PIN, this PIN cant open door, only for user modify PIN

8.7.5 use ID number and PIN to add user

Press

Note: this fit PIN user, pin is irrelevant with card, the PIN is any 4-6 digits with the exception of 1234 which is reserved.

8.8 Delete user

8.8.1 read card to delete user

Press ...

8.8.2 use ID number to delete user

Press ...

8.8.3 use card number to delete user

Press ...

8.8.4 delete all users

Press

8.9 Set opening door mode:

8.9.1 Entry is by card only

Press

8.9.2 Entry is by card and PIN together

Press

8.9.3 Entry is by card or PIN (factory default)

Press

8.10 set door relay time

Press

Note: 0~99 is to set the door delay time 0-99 seconds, factory default is 5 seconds

8.11 Set Relay mode

Relay setting -pulse mode

Press

Every time a valid card/tag read or PIN input, the relay will operate, for the pre-set relay pulse time. (Factory default setting)

Relay setting-Toggle mode

Press

Every time a valid card/tag read or PIN input, the relay changes state, which will not turn back until read card/tag or input PIN again

8.12 Set opening door by multi cards

Press

Note: the door will be opened only after reading all the valid multi cards up to the card quantity setting. It is only for card entry mode(Factory default setting :1)

8.13 Add a series consecutive cards users

Press

Note: the card number must be consecutive card quantity is between 1~2000; card number is 10 digits or 8 digits

8.14 system setting

8.14.1 To set facility code

Press

Note: code should be 0~15, factory default setting :0

8.14.2 Wiegang Reader

Press

8.14.3 standalone for single door(Factory default setting)

Press

8.14.4 Anti-passback for Single door

Press

8.15 To set wiegang format

Press

Note: factory default setting :26

8.16 setting keypad transmission format

Press

Note: keypad transmission format is 0 1 2, factory default is 0; when device reset to factory default, the setting is still valid.

8.17 Setting alarm time

Press

Note: 1. factory default is 1 minute

2. when device reset to factory default, the setting is still valid.

8.18 setting safe mode

8.18.1 normal mode (factory default)

Press

8.18.2 dead mode

Press

If read invalid card or input wrong PIN 10 times in 10 minutes, system will be dead for 10 mins

8.18.3 alarm mode

Press

if read invalid card or input wrong PIN 10 times in 10 minutes, external alarm and built-in buzzer will work.

8.19 user optional setting

8.19.1 setting keypad tone OFF or ON

Press

The device will be in silence except enter the programming mode

Press

The device will give the voice when press the keys (Factory default setting)

8.19.2 setting keypad backlight

Disable keypad backlight

Press

Enable keypad backlight

Press

Automatic mode (factory default setting)

Press

Normally it is off(sleeping mode) but wake up with human approach

8.19.3 setting LED light (stand-by status)

Disable LED light

Press

Flash LED light (factory default setting)

Press

Manager card operation

8.20 add user

Read Manager Add Card, read user cards continuously, read Manager Add card again.(其实退出程序就可以了)

8.21 delete user

Read Manager Delete Card, read user cards continuously, read Manager Delete card again..(其实退出程序就可以了)

9 User Operation

9.1 Entry by card mode, Set multi cards to open door when card quantity is 1

Read user card, lock will be unlocked

9.2 Entry by card mode, Set multi cards to open door when card quantity is 2-10

Read these cards one by one, present each card in 5 seconds, lock will be unlocked

9.3 Entry by card and PIN

Present card, then press PIN(4 to 6 digits), #, lock will be unlocked

9.4 Entry by card or PIN mode

Present card, lock will be unlocked

Or Press PIN(4 to 6 digits), #, lock will be unlocked

9.5 Relay mode

Relay setting -pulse mode

every time a valid card/tag read or PIN input, the relay will operate, for the pre-set relay pulse time.

Relay setting-Toggle mode

Every time a valid card/tag read or PIN input, the relay changes state, which will not turn back until read card/tag or input PIN again

9.6 Modify user PIN (no need enter programming mode)

*, read user card, press old PIN, #, new PIN # new PIN #

Or *, press ID number # old PIN# new PIN # new PIN #

Notice: user who don't have user card must get ID number and origin PIN from Admin.

10 Alarm function

10.1 Anti-tamper alarm

if the device is disassembled illegally, the buzzer and the external alarm will operate.

10.2 Door contact alarm

When connect with door contact, if the door is opened illegally, the buzzer and the external alarm will operate.

10.3 The Anti-duress alarm

When read anti-duress card/input 8-digit anti duress PIN, then press #,

The corresponding lock will open, at the same time, the external alarm will operate, but the device buzzer will not operate.

10.4 remove alarm

read valid user card, manager card or input master code, then alarm will be removed. If no any operation, alarm will be removed automatically after 1 min.

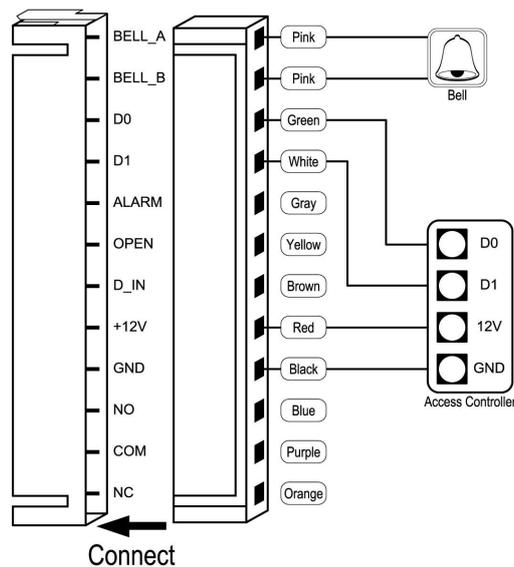
11 Multi working mode:

There are 7 working mode with this device. 1. Wiegand Reader, 2. Standalone for single door, 6. Anti-passback for single door.

The factory default is Standalone for single door (we can change the default model according to customer order). User can modify the working mode, when the device reset to factory default, the setting is still valid.

11.1 Wiegand Reader mode

In this mode the unit supports a Wiegand 26 bit output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26 bit input.



In this mode, the access control works as reader, connected with the common access controller, it has following function.

- Modify master pin
- Set facility code
- Set the card transmission format
- Set the keypad transmission format
- Set optional setting
- Anti-Tamper alarm

When LED level is low, indicator light(LED) will turn into green, after 30 seconds or LED level rising, LED will back to normal.

When BZ level is low, the buzzer will beep, after 30 seconds or BZ level rising, the buzzer will back to normal.

When it used as the reader, both card number and keypad transmits in Wiegand format, the output data are shown by the low level of DO&D1 wire:

- D0: low level means 0, green wire
- D1: Low level means 1, white wire

The Pulse width of low level is 100uS, bit period is 1.6mS

The digits of card number can be set to 26-37 bit, should be matched with the controller. (Factory default is 26Bit)

Keypad transmission can be set in the following 3 modes (modes can be set by user)

Model 0: Virtual card number

The reader will transmit the PIN data when it receives the last key(#) press after PIN code

Format: Decimal card number with 10 digits, Facility code(1st~4th digit)+PIN Code(5th-10th digit)

Facility code is any digits between 0~15, PIN code is 4~6 digits

Example: facility code : 15

PIN code: 9999

Press 9999 #, then output format will be: 0015009999

PIN code: 999999

Press 999999#, then output format will be 0015999999

Model 1: 4 Bit

The output data is provided in following format after every key is pressed:

key	Output in hex	Output in Binary
0	0	0000
1	1	0001
2	2	0010
3	3	0011
4	4	0100
5	5	0101
6	6	0110
7	7	0111
8	8	1000
9	9	1001
*	A	1010
#	B	1011

Model 2: 8 Bit

The output data is transmitted in following format after every key is pressed:

key	Output in hex	Output in Binary
0	0	11110000
1	1	11100001
2	2	11010010
3	3	11000011
4	4	10110100
5	5	10100101
6	6	10010110
7	7	10000111
8	8	01111000
9	9	01101001
*	A	01011010
#	B	01001011

11.2 Standalone for single door

In this mode, the device supports connecting external card reader for exiting door.

The users can connect external reader to open the door by valid card or PIN.

11.6 Anti-passback for Single door

In this mode, this unit install outside is for entering door, external reader inside for exiting door, the users can only enter door when read valid card on the machine, and exit from the inside external reader. If without the entering record from the machine, the users can not exit from the inside reader, also the Users can't enter in twice without the first exit record.

Remark: this is only for card users of Zone 1, PIN users of Zone 1 an all users of Zone 1 are invalid.

12 diagram for 7 working mode

12.1 Wiegand Reader mode

12.2 Standalone for single door

12.3 Anti-passback for Single door

13 Instance Operations

13.1 Modify master code as 201200

press * 999999 # 00 201100# 201100 # .

13.2 Set Anti-duress PIN as 12012000

press * 201100 # 05 12012000 # .

13.3 add last 8 digit card number as 00967865 and 86998736 user

Press * 201100 # 11 00967865 # 86998736 # .

13.4 set open mode of Zone 1 as card+PIN

press * 201100 # 13 1 # .

13.5 rapid increase consecutive numbers 1000 cards (start with 00987865 ID is 005)

press * 201100 # 17 05 # 00987865 # 1000 # .

13.6 set working mode as reader mode

press * 201100 # 31 0 # .

13.9 set card output format as WG34

press * 201100 # 32 34 # .

13.10 set master open lock 1

press * 201100 # 51 .

14 Simple Troubleshooting

Code	Fault	Fault Cause	Solutions
1	Close Read range	Quality of card	Use original card
2	Problem in PIN setting	1.PIN is not standard 2.Set Password at reader mode	1.PIN shouldn't be 1234 2. PIN is 4 to 6 digits 4.don't set PIN at reader mode
3	PIN can't open door	1 use PIN 1234 2 entry mode setting	1.1234 is original PIN, can't open the door, should be modified as other PIN 2.set open mode as entry by card or PIN.
4	Alarms at normal condition	While installation, light leak under bottom	While installation, device should closed to the wall
5	No responds after card reading	Units are not in ready mode	Press * key, light flash, units back to ready mode
6	Keypad light is not bright	Mode of keypad light setting is wrong	1.set keypad light as shine or auto 2.under auto mode , light shine after press keypad , delay 30 seconds
7	Can't enter master mode	Forget master code	Reset to Factory Default , master code will be 999999 , only installer data is restored, user data will not be affected

15 To Reset to Factory Default

- Disconnect power from the unit
- Press and hold # key whilst powering the unit back up
- On hearing two "Di" release # key, system is now back factory settings
Please note only installer data is restored, user data will not be affected

16 Packing List

Name	Model/size	Quantity	Remarks
Keypad	S601	1	
User manual	S601	1	
Self tapping screws	Φ4mm×27 mm	2	Used in fixing
Rubber plug	Φ6mm×30 mm	2	Used in fixing
Star screw driver	Φ20mm×60mm	1	Special for Keypad
two-electrode valve	1N4007	1	