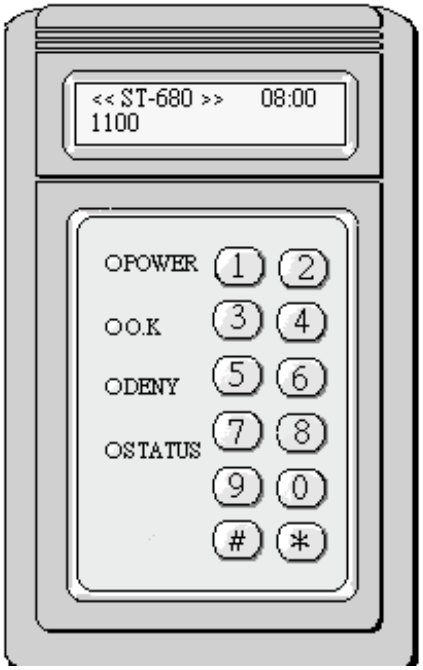
ST-680

NETWORK PROXIMITY ACCESS CONTROL OPERATION

AND INSTALLATION MANUAL



2005 JANUARY

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ST-680 OPERATION INSTRUCTIONS

1. Features introductions

★ When connecting with computer, it can be used for data inquiry and function setting simultaneously. (Door open/close, start alarm system, etc). It can also operate solely to manage access control.

★ Function setting can be done by computer or reader itself. (Single registration or deletion, door open time, etc).

★ The capacity data input/output can reach up to **6,000** by single reader operation. When linking with computer, its data input/output capacity can be unlimited.

★ Main reader has **9,000** card registrations capability. Each card can be self-setting for personal password and effective in/out time.

★ Main reader has **48** units of time zone. Each time zone unit also has 5 time ranges for self-setting by user.

Example: It can be set from “G” hour “H” minute to “I” hour “J” minute on every Mondays, Wednesdays, Saturdays in periodic of “A” year “B” month “C” day to “D” year “E” month “F” day as effective in/out time range.

★ Directly link to series type printer for direct data printing.

★ Additional sub-reader for in/out control.

★ Equipped with hardware self-testing function

★ Internal batteries will provide power supply when power cut occurred to prevent any data from being erased and system time can operate as normal.

★ Main reader access control’s range:

* Card number -It must be registered before use.
* Password -Personal password has to key in to open the door.
* Time zone -Setting the effective of year, month, day, time range, Monday ~ Sunday
* Special holidays -User could set any holidays as to prevent any unauthorized access.
* Error control -Alarm will activate when “N” times of consecutive error password entering occurred.
* Anti-pass -The card could only be used for matching single entry and exit. (Otherwise, it will be considered the card has been duplicated causing access denial.)

★ Main reader’s sensing range:

* Anti-tamper - when the reader is tampered, alarm will be activated.
* Anti-theft - Alarm will be activated when sensing any abnormal operations.
* Illegal door open - Alarm will be activated when door is destroyed and opened by force.

* Anti-duress - It will operate when password and duress code are keyed in to send help signal to the nearest police station. It must be done manually to disable anti-duress function.

* Exceed door shut time - Alarm will be activated, when door is not closed exceeding initial time setting control.

* Door open button sensing - Door will open immediately when the button is pushed.

2. Reader Front Panel & Types of Proximity Card

(a) Front Panel Indicator Lights

(1). POWER (red) **:** power indicator.

(2). OK (green) **:** door open indicator.

(3). DENY (yellow) **:** operation error or unregistered card indicator.

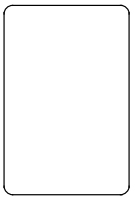
(4). STATUS (yellow) **:** system starts and setup mode indicator.

(b) 10 entry (buttons), two function keys: "＃"&"＊".

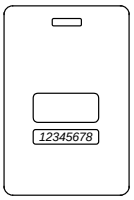
＃ key : input data confirm key (Enter)

＊ key : clear or escape key (CLR/ESC)

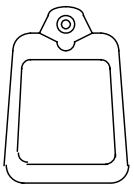
(c) Types of proximity card



SC-10 thin card**:**
ISO standard card size, thickness 0.8 m/m. Card-printing machine can be used to print user photo or picture directly. Read range, 25cm



SC-20 thick card**:**
ISO standard card size, thickness 1.78 m/m. Card-printing machine can be used to print user photo or picture directly. It can also be used as hang plate. Read range, 25 cm.



SC-30 key tag:
Key ring type designed, easy hand carrying, supersonic welding, waterproof, shockproof. Dimensions: 51mm (L), 32mm(H), 7.8mm(W). Read range, 10 cm.

3. Operation instructions

Start reader: It will begin self-testing function when power is switched on. Its operation procedures are as follow:

LCD DISPLAY	INSTRUCTIONS
SRAM TESTING	Memory testing
RTC TESTING	Real time clock testing
INITIAL FUNCTION	Initial system setting
<<ST680>> 08:05 0010	Model (ST680), present time (08:05), 10 registrations.

Note: Card must not exceed the read range (refer to different models) to gain induction.

a). OK (green) light is on to indicate registered card to gain access.

b). DENY (yellow) light is on and consecutive beeping sound is on to indicate unregistered card or used under unauthorized time zone. (Please refer to troubleshooting if neither of above statuses occurred)

Mode inquiry: Press [*] [#] [#], LCD will display:

MD	ADR	YYYY/MM/DD
2	001	1999 / 01 / 01

MD: open door mode (2 shows door open by proximity card sensing, 3 shows door open by proximity card sensing with password.)

ADR: main reader number. **YYYY/MM/DD**: current date.

Re-press [*] to escape.

Anti-duress: When under duress, user may press [*] button before keying in password to activate alarm.(Duress code presetting is [*], it can be changed by user)

Example : anti-duress code is [1], password is [1] [2] [3] [4], then to activate anti-duress alarm, the user should key in [1] [1] [2] [3] [4].

Setup Mode:

SYSTEM FUNCTIONS
SELECTION : _ _

User must get into setting mode first before changing any system functions. User must key in [#] system password [#] for system function selection. System password is being set 5 6 7 8 initially by manufacturer. (Example: User can get into the set up mode by keying # 5 6 7 8 #).

4. Quick setup:

User will get into the setup mode as the right diagram shown for any setting to be made.

SYSTEM FUNCTIONS
SELECTION : _ _

(A) Add new card , key in [0] [1] then key in [0] [0] [0] [0] [0] [0] [0] [1].
8-digit card number

(B) Delete card, key in [0] [2] then key in [0] [0] [0] [0] [0] [0] [0] [1].
8-digit card number

(C) Door open time, key in [0] [4] then key in the seconds [0] [0] [3].

(D) Change reader number, key in [1] [0] then key in the reader number [0] [0] [2].

(E) Door open mode, key in [0] [5] then key in the mode code [2].

(F) Time setting, key in [1] [5] then key in the time [1] [3] [0] [0] [1] [5].
13:00:15

(G) Date setting, key in [1] [6] then key in [2] [0] [0] [0] [0] [1] [0] [1] [6].
2000/01/01 (6)

Note: (1)Sunday (2)Monday (3)Tuesday (4)Wednesday (5)Thursday (6)Friday (7)Saturday

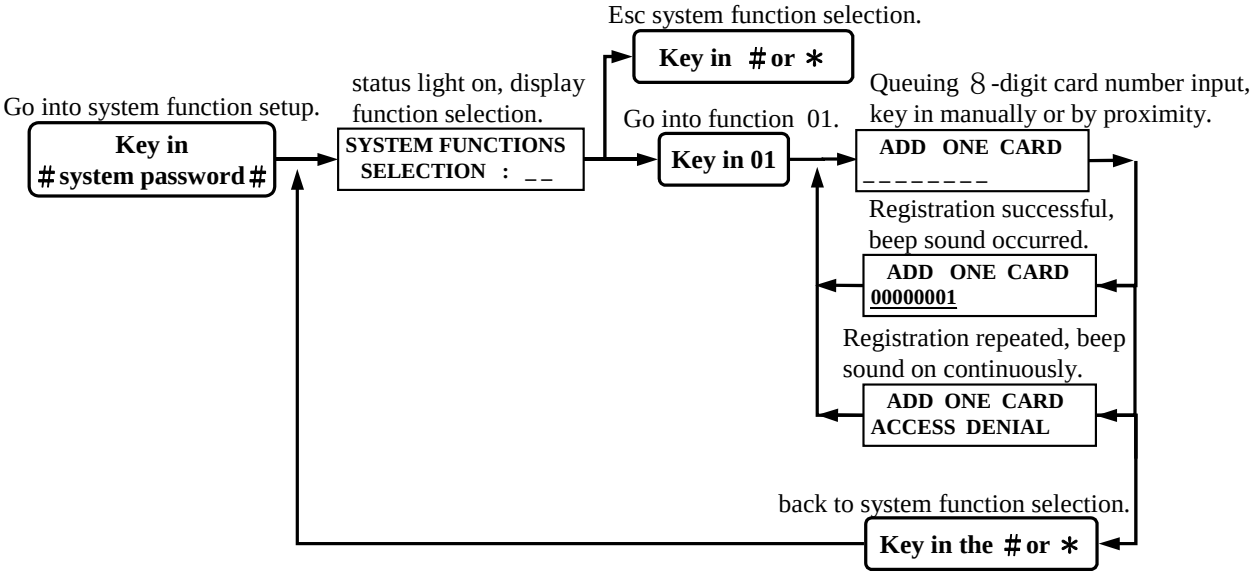
(H) Release alarm, key in [0] [7] , confirmed then press [#].

(I) Release anti-duress alarm, key in [0] [9] , confirmed then press [#].

5. SETTING MODES & FUNCTIONS

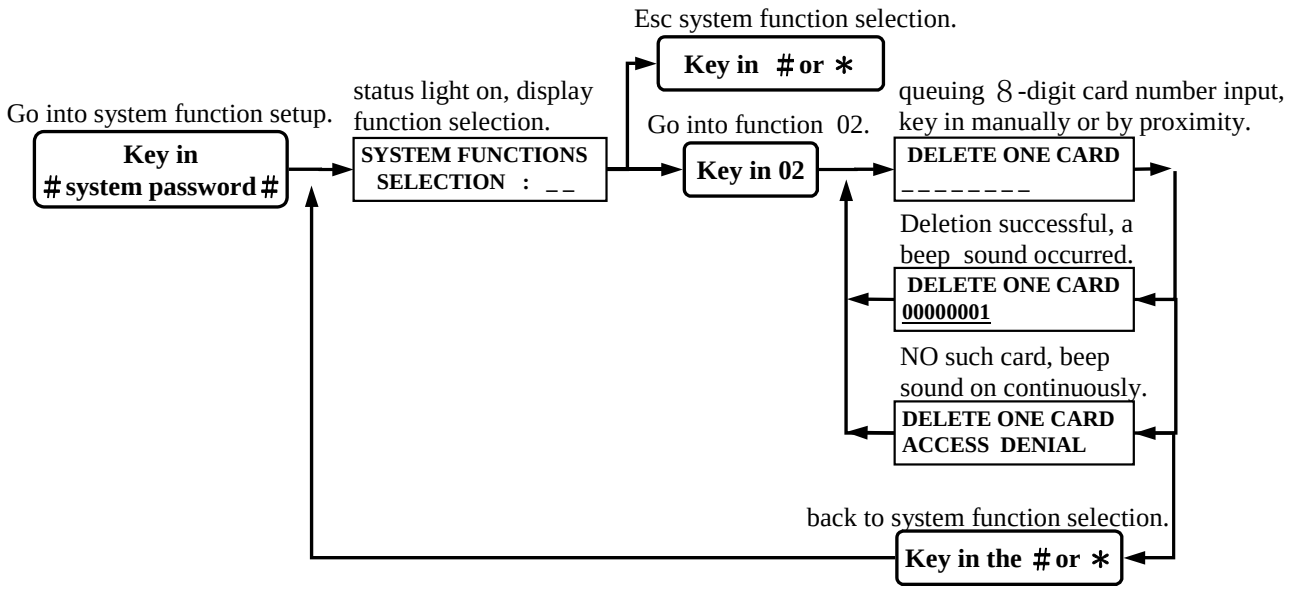
Function (01) Add new card:

Either key in 8-digit card number or use proximity card to register, both can be accepted but should be registered prior using.



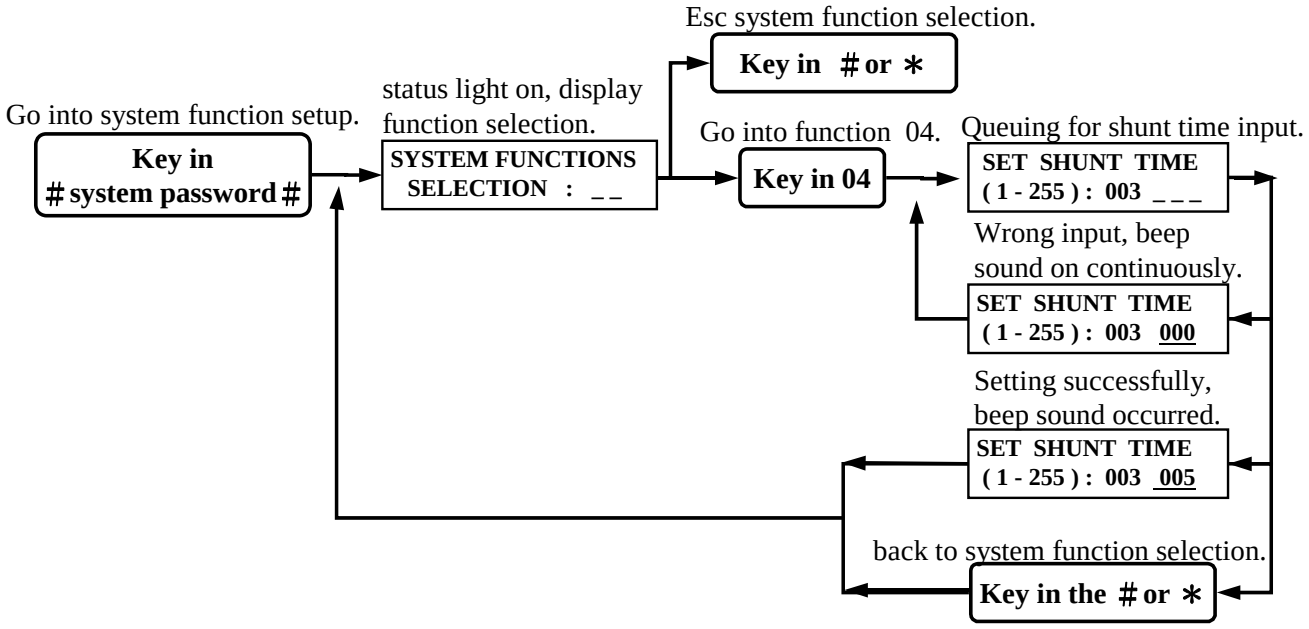
Function (02) Delete card:

Deletion of user's card (such as loss of card or to prevent specific user to gain access) can be achieved by keying 8-digit card number indicated on the proximity card.



Function (04) Shunt time:

Setting of relay's ON/OFF time in the proximity reader can be set from 01-255 seconds. (pre-setting time is 003)

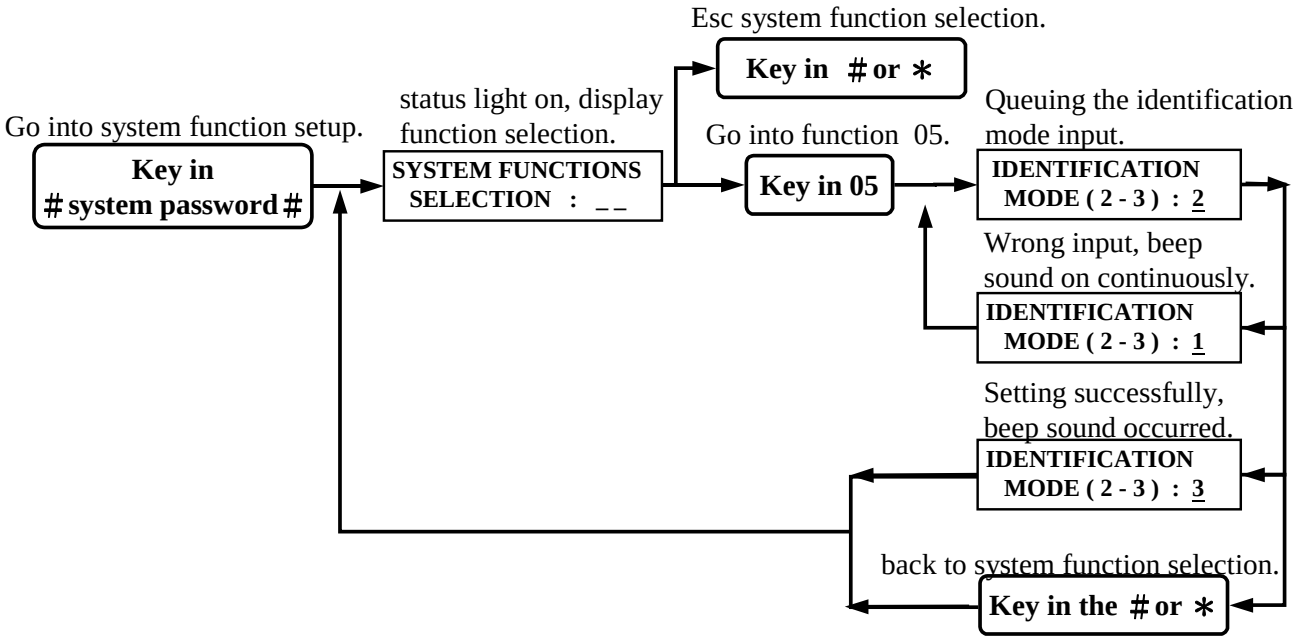


Function (05) Door open mode:

Reader has 2 types of identification modes. (pre-setting figure is 002)

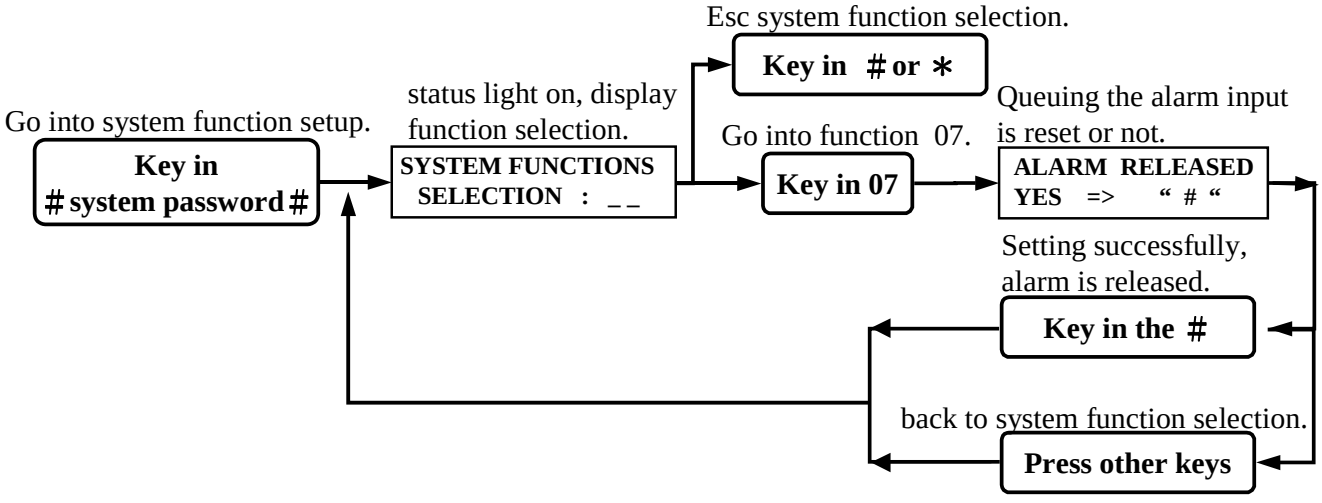
Mode (2). Card proximity door opening: The door will be opened, when the card is sensed.

Mode (3). Door open by proximity card and password: The door will be opened by keying additional 4-digit password after sensing the registered card.



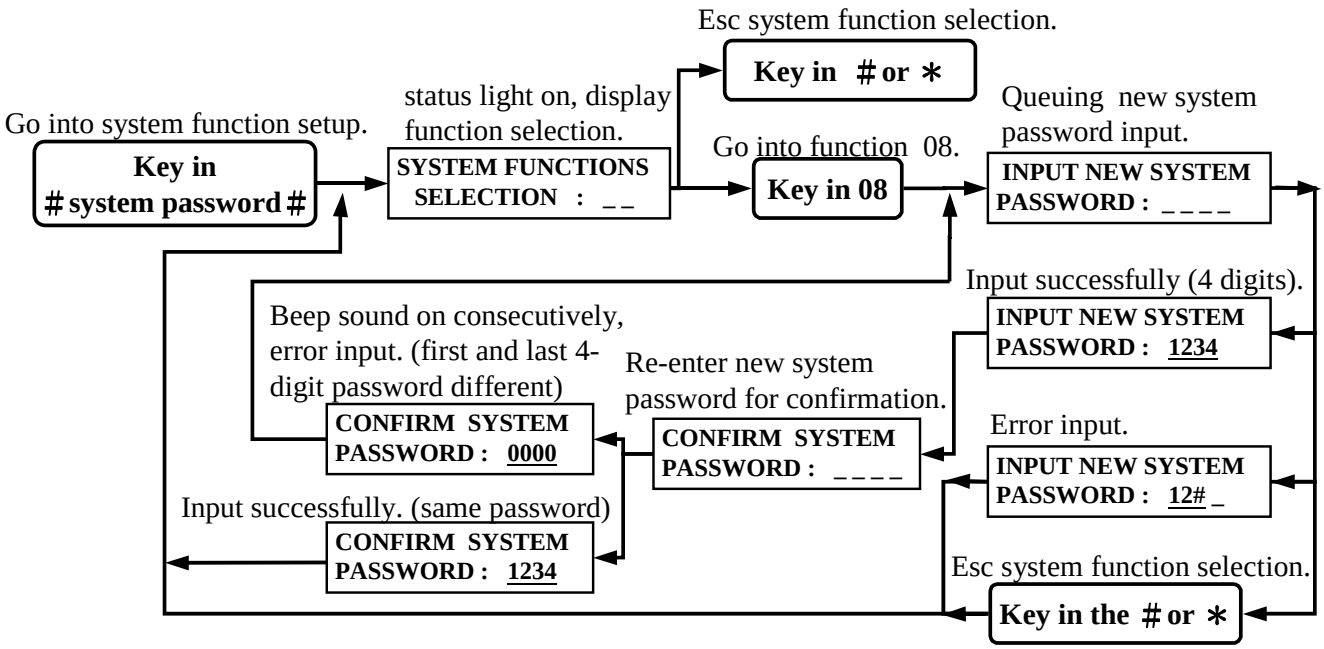
Function (07) Reset to release alarm:

User sets to release the alarm.



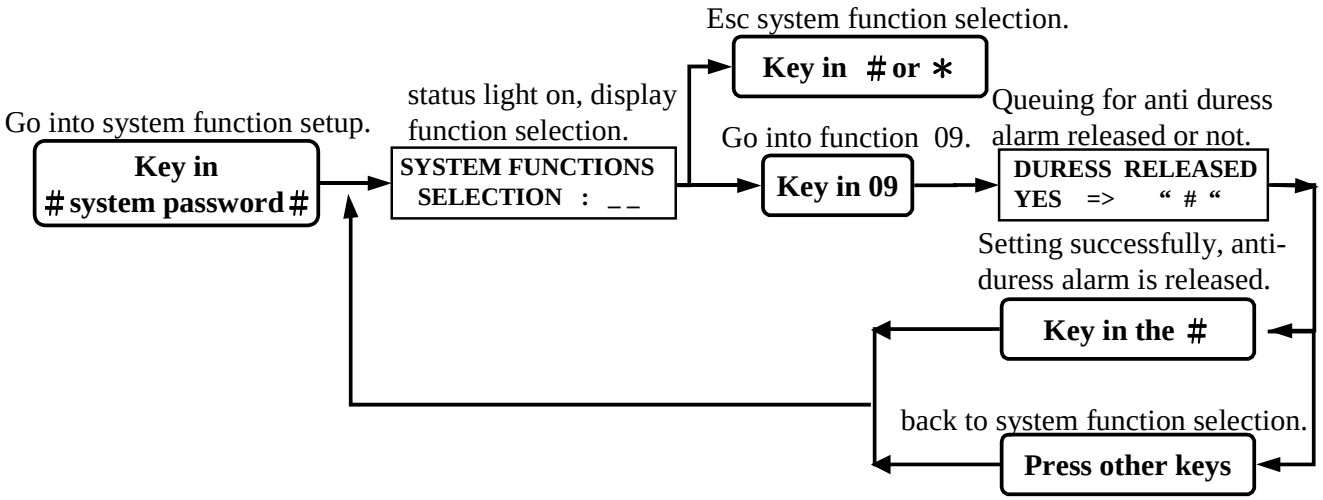
Function (08) Change system password:

The reader's password is being set at 5 6 7 8 initially by manufacturer. In order to enter into system setting mode for the first time, user must key in the initial system password – 5 6 7 8. User may change the system password after entering into system setting mode.



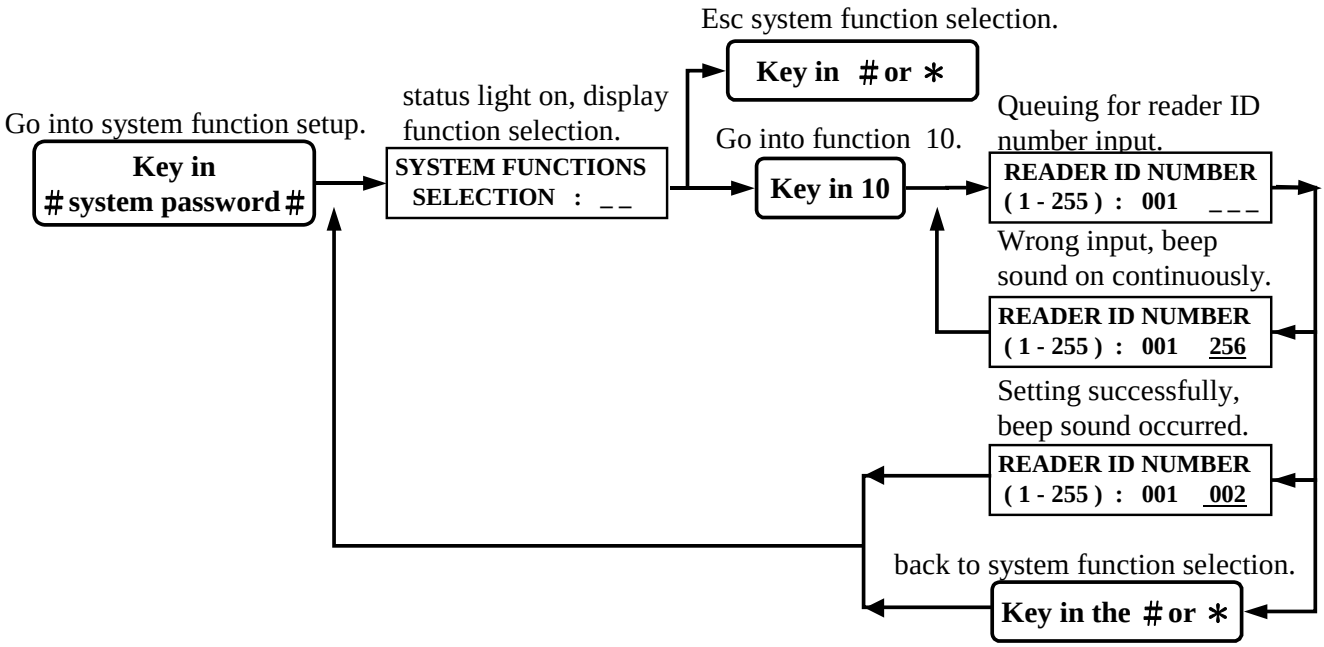
Function (09) Reset to release anti-duress alarm:

User sets to release the anti-duress alarm.



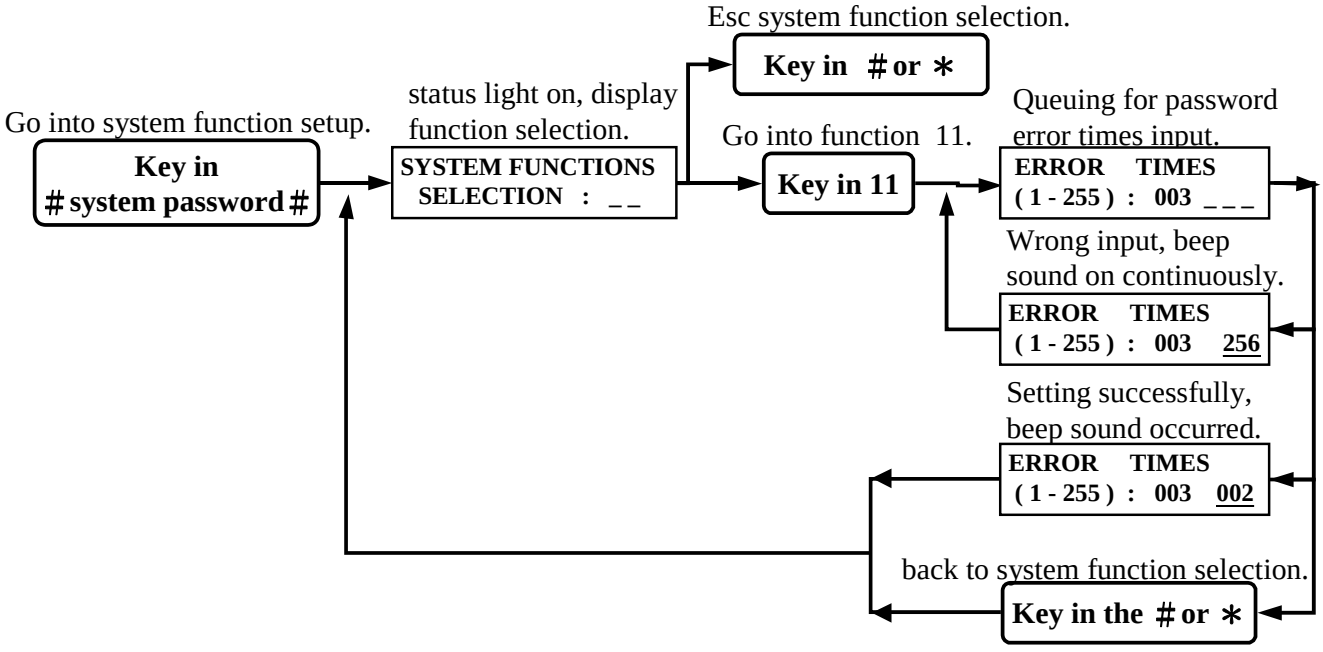
Function (10) Reader ID number:

Each reader has a reader ID number for computer identification and the number should not be repeated. (pre-setting figure is 001)



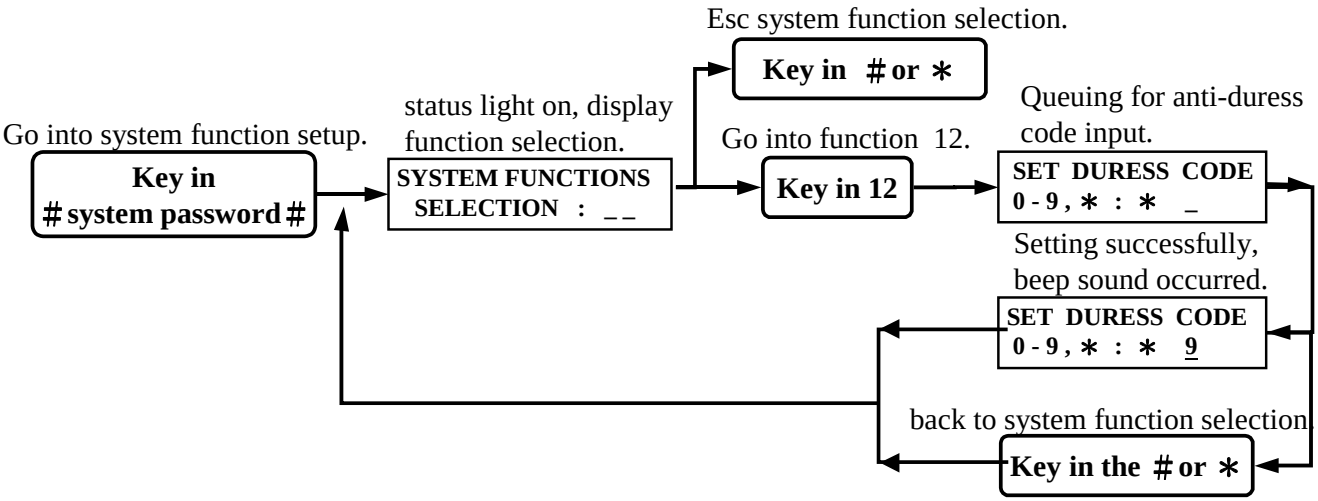
Function (11) Password error times:

Alarm will be activated when “N” times of consecutive error password entering occurred. (pre-setting figure is 003)



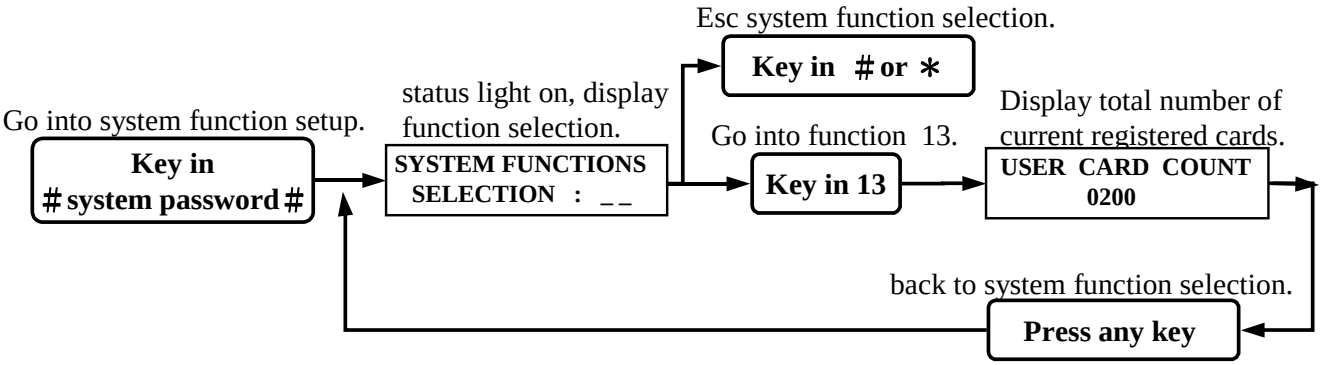
Function (12) Anti-duress code :

Set up of anti-duress code (∗, 0 ~ 9). (pre-setting code is ∗)



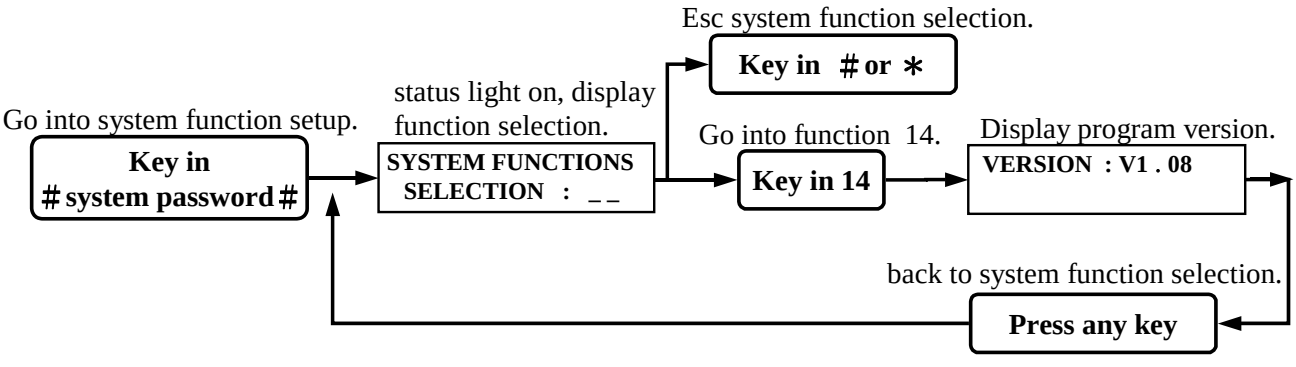
Function (13) Total cards:

Display total number of current registered cards.



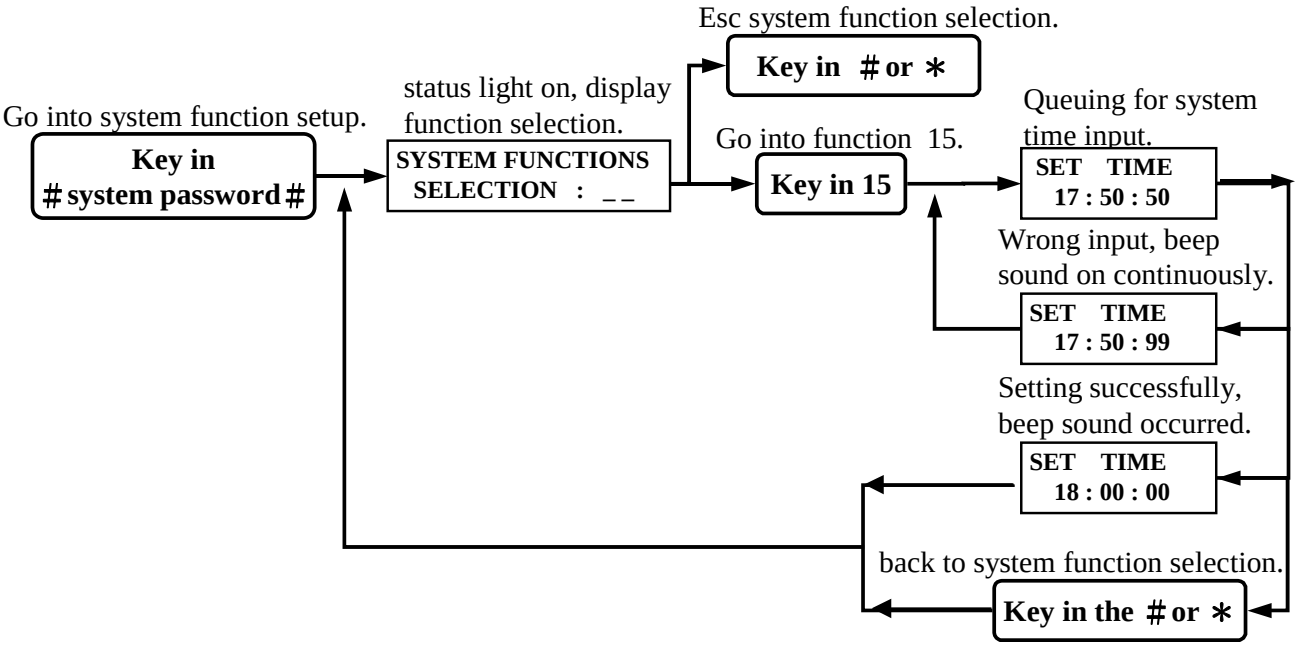
Function (14) Program version:

Display program version.



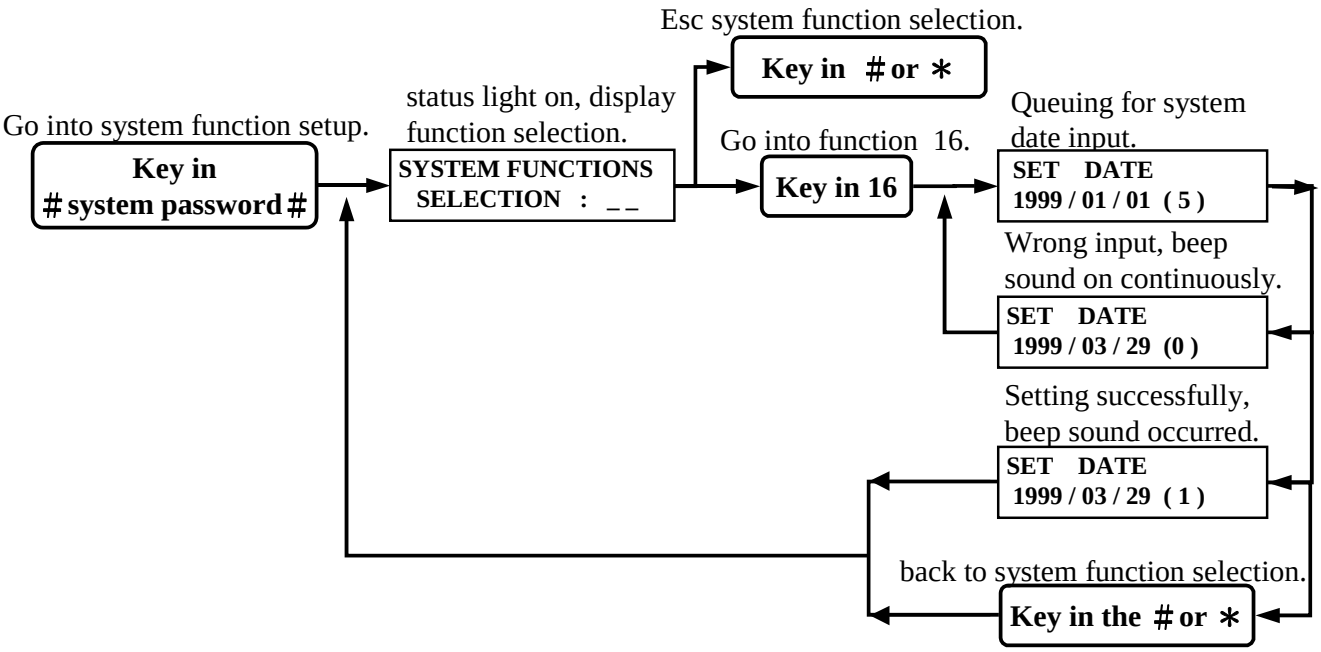
Function (15) Set time:

Example: 18 hour 00 minute 00 second => 18:00:00 (pre-setting figure is 00:00:00)



Function (16) Set date:

Example 2000/04/30 Sunday => 2000/04/30 (1) (pre-setting is 2000/01/01 (5))



Function (17) Auto Record range:

This is to set under what kind of status to save by stand alone operation. (pre-setting figure is 003). There are 4 kinds of status to choose:

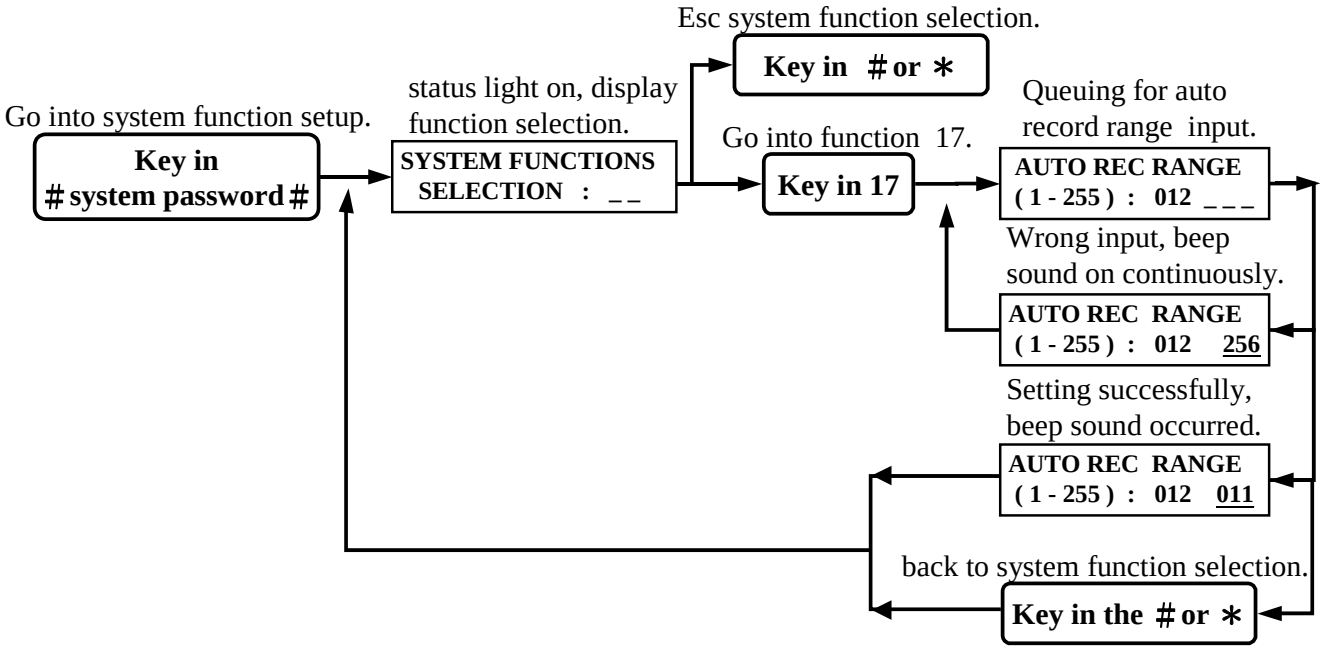
A. Detect point / output action. (+1) B. Computer special command. (+2)

C. Single reader operation status. (+4) D. User error status. (+8)

Example:

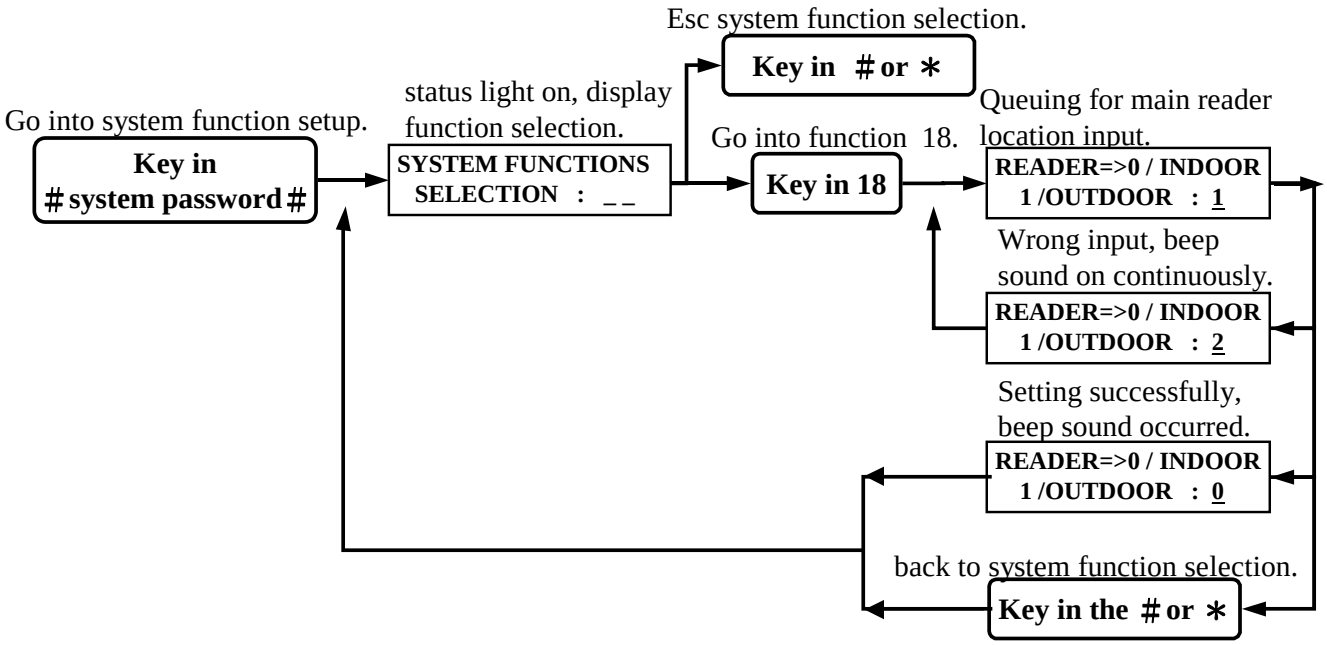
If A and B statuses are chosen, the setting figure for auto record range is 3 (1+2)

If A, B, and D statuses are chosen, the setting figure for auto record range is 11 (1+2+8)



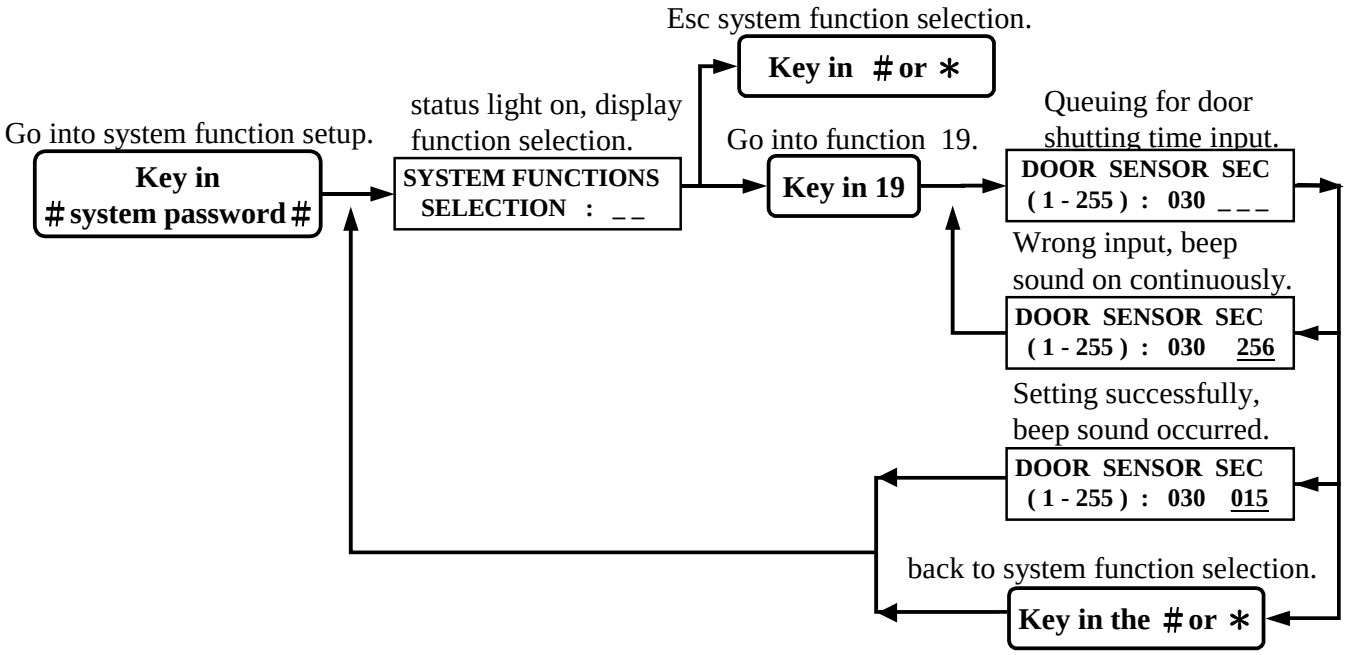
Function (18) Main reader location:

To show the location of the reader: (0) Indoor, (1) outdoor. (pre-setting location is 001)



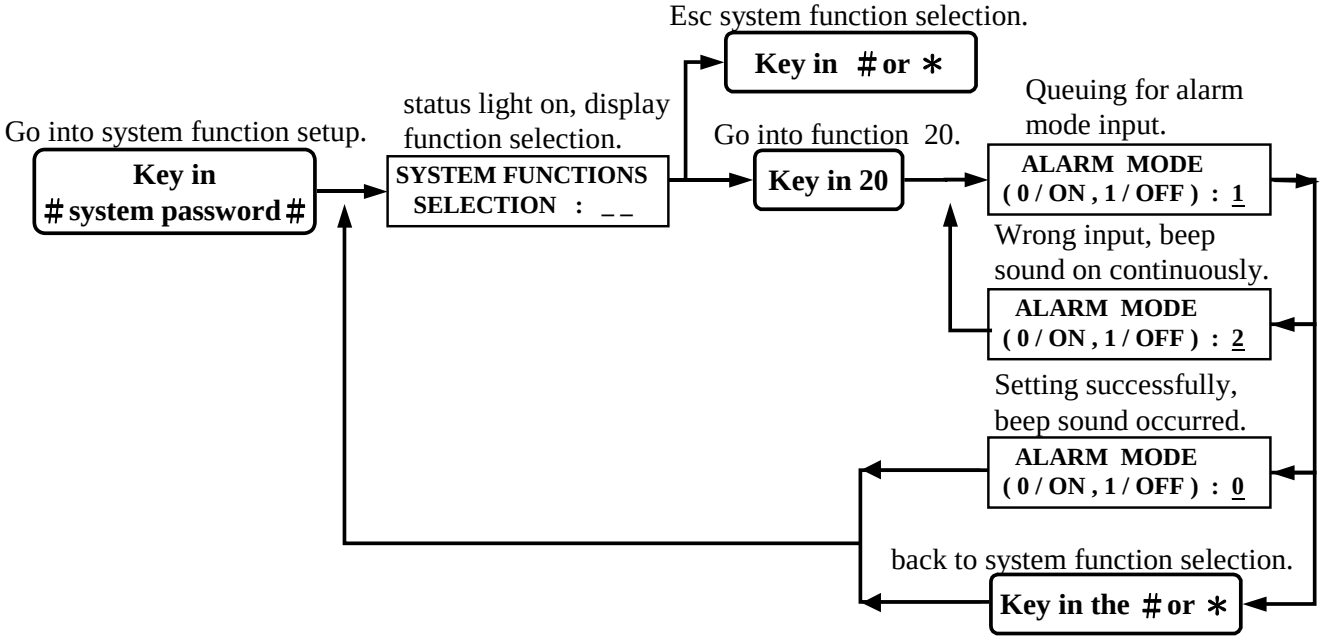
Function (19) Door shutting time:

Time setting for sensing door-shutting time as to activate the alarm when exceeding the set value. (pre-setting value is 030)



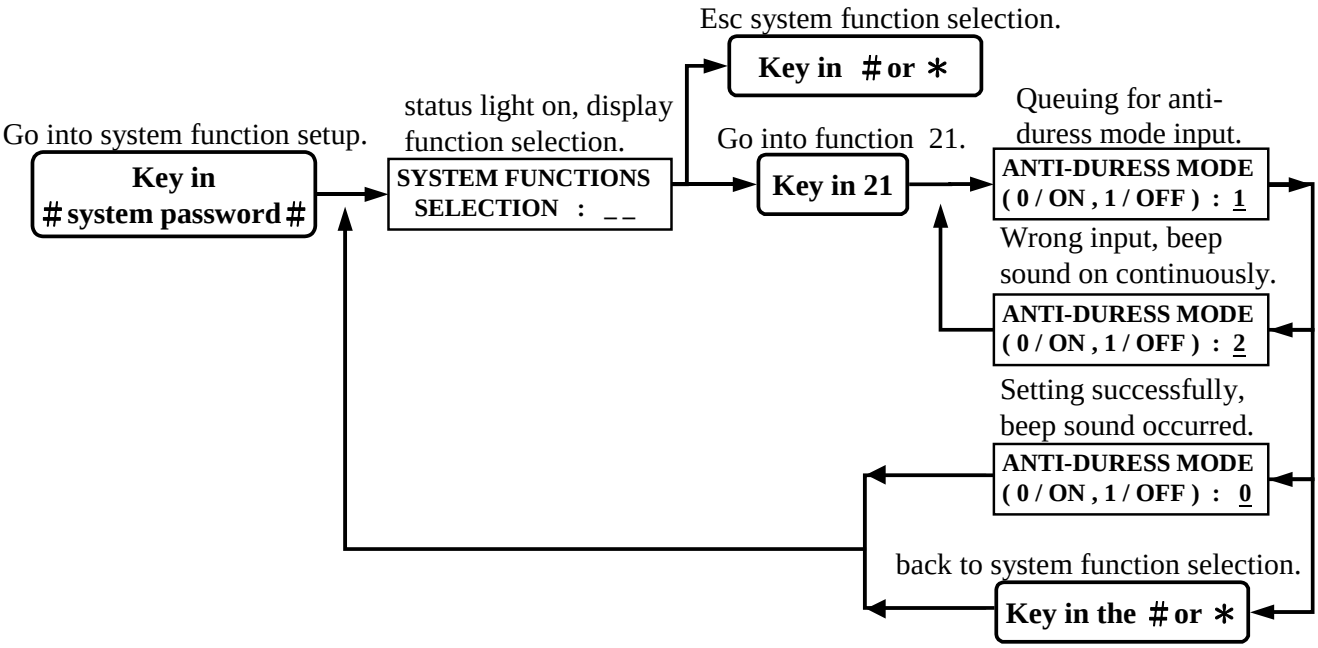
Function (20) Alarm mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000) Once set at “ OFF “ , alarm will not function.



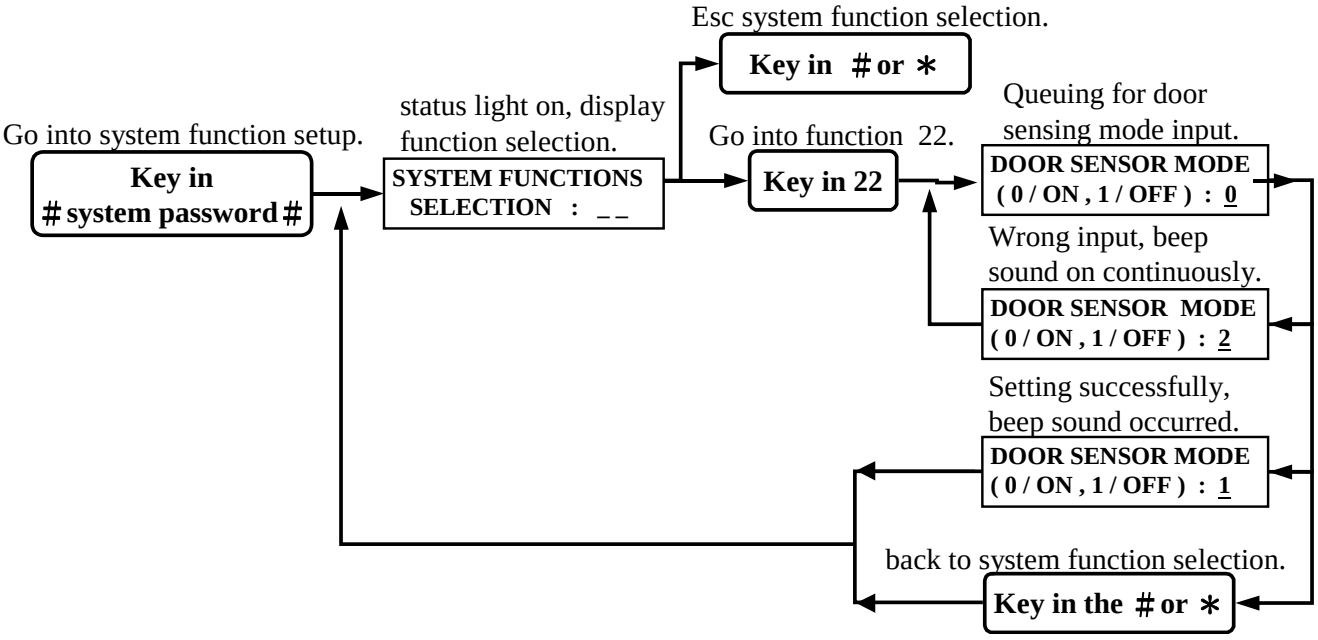
Function (21) Anti-duress alarm mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000). Once set at “ OFF “, anti-duress alarm will not function.



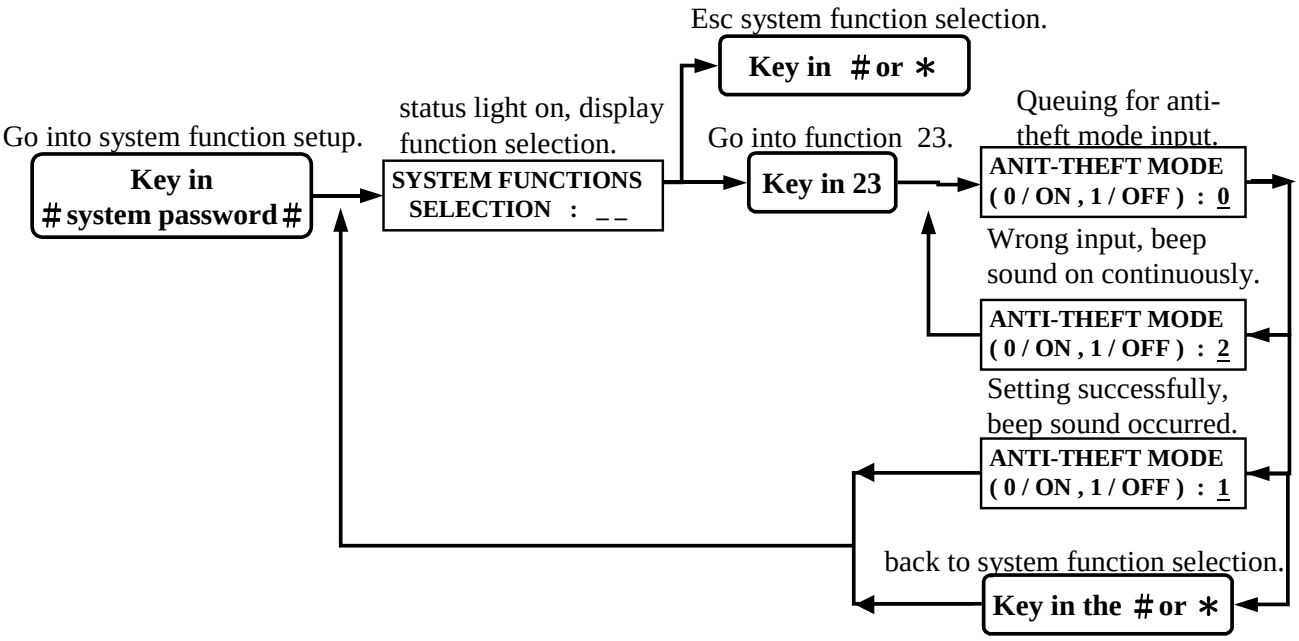
Function (22): Door sensing mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000). Once set at “OFF”, the sensing mode will not function at any abnormal door opening.



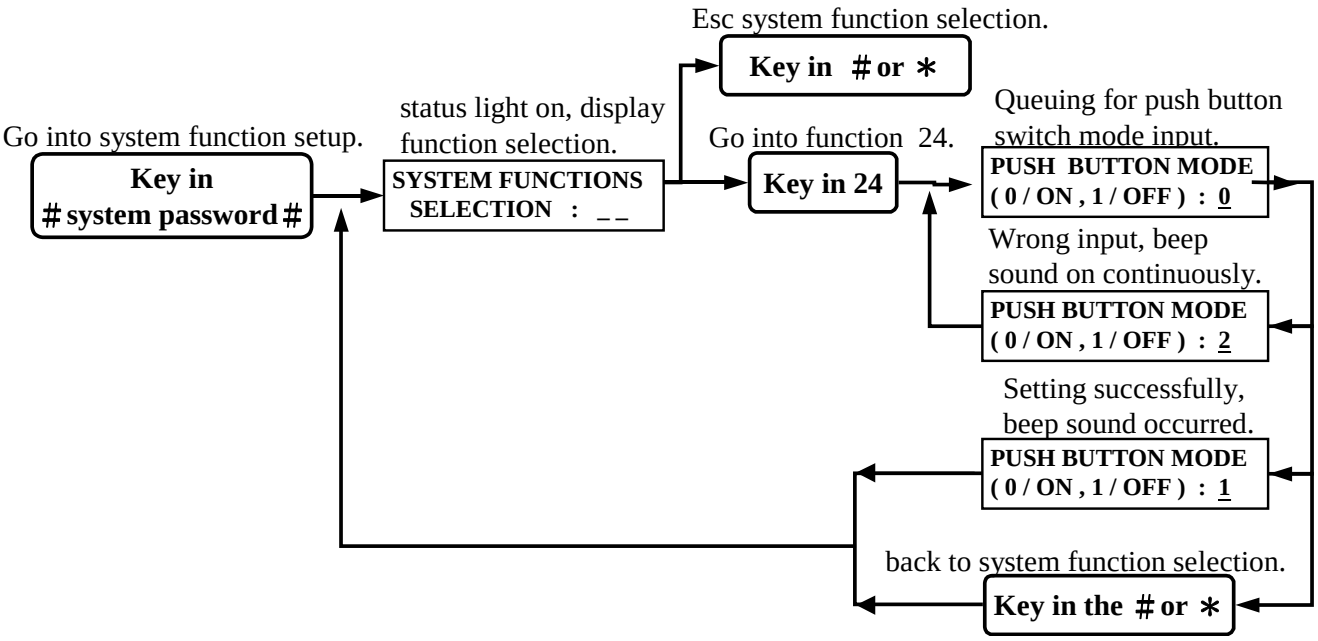
Function (23) Anti-theft sensing mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000). Once set at “OFF”, the sensing mode will not function at any cases of broken in.



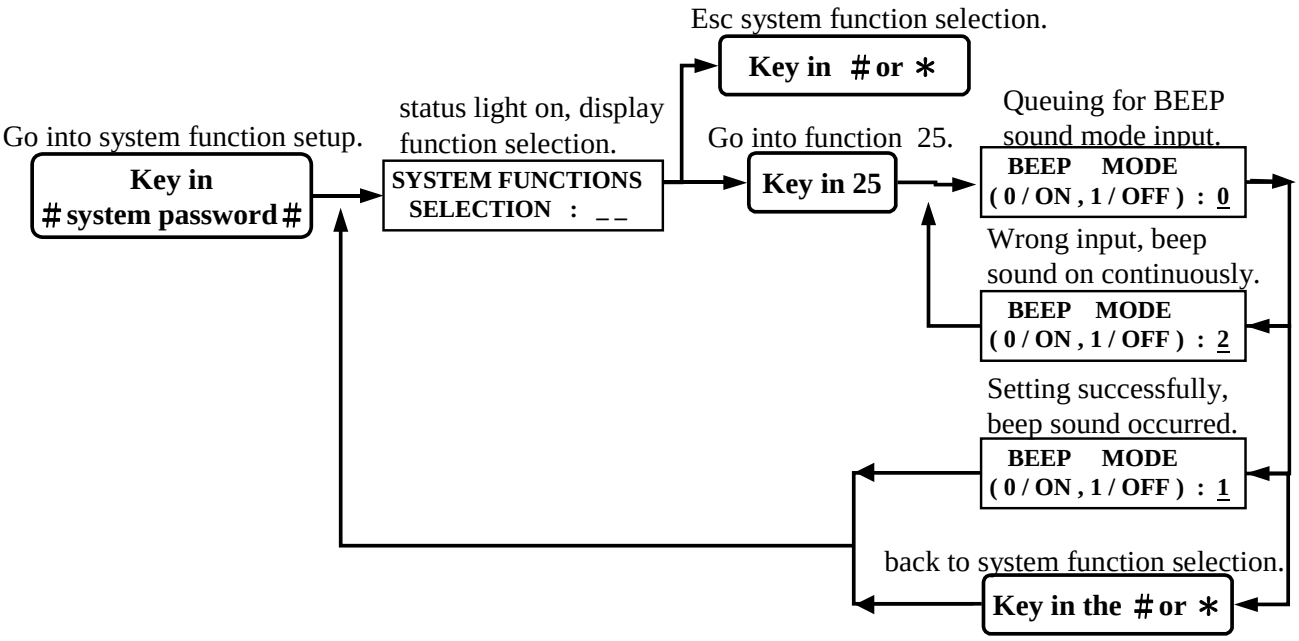
Function (24) Push button door opening sensing mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000). Once set at “OFF”, the sensing mode will not function if the push button is pressed.



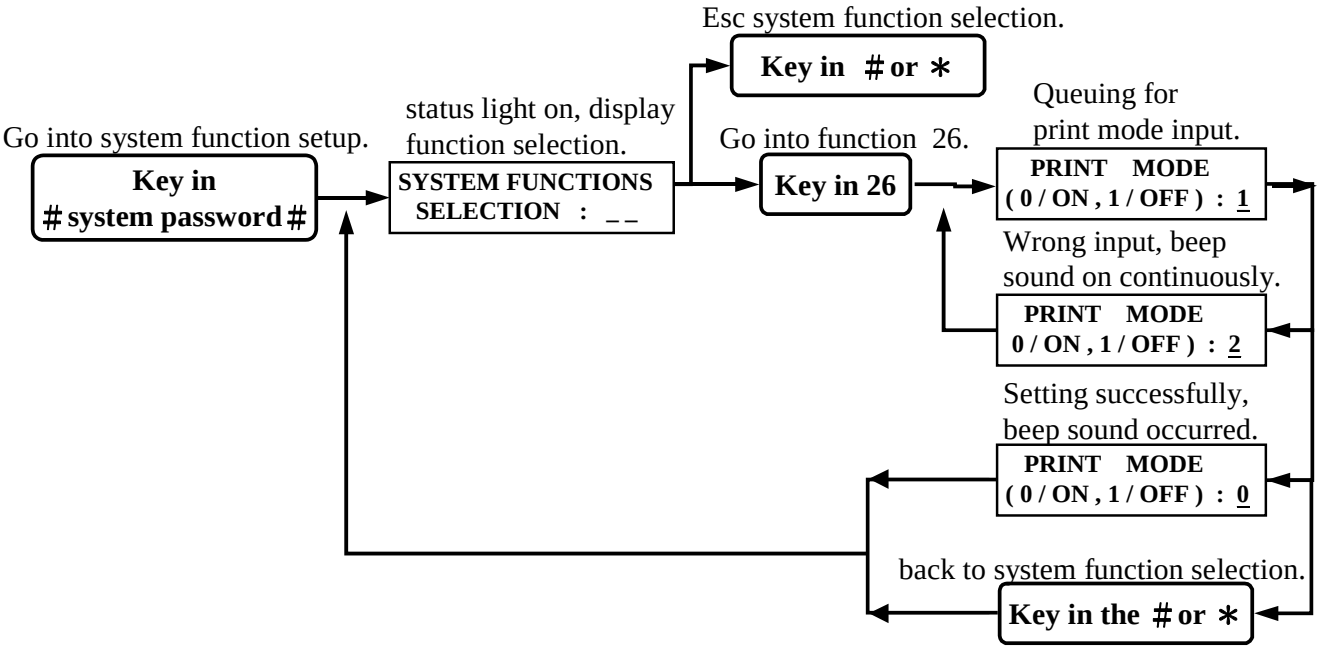
Function (25) BEEP sound mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 000). Once set at “ OFF “, the BEEP sound will not function.



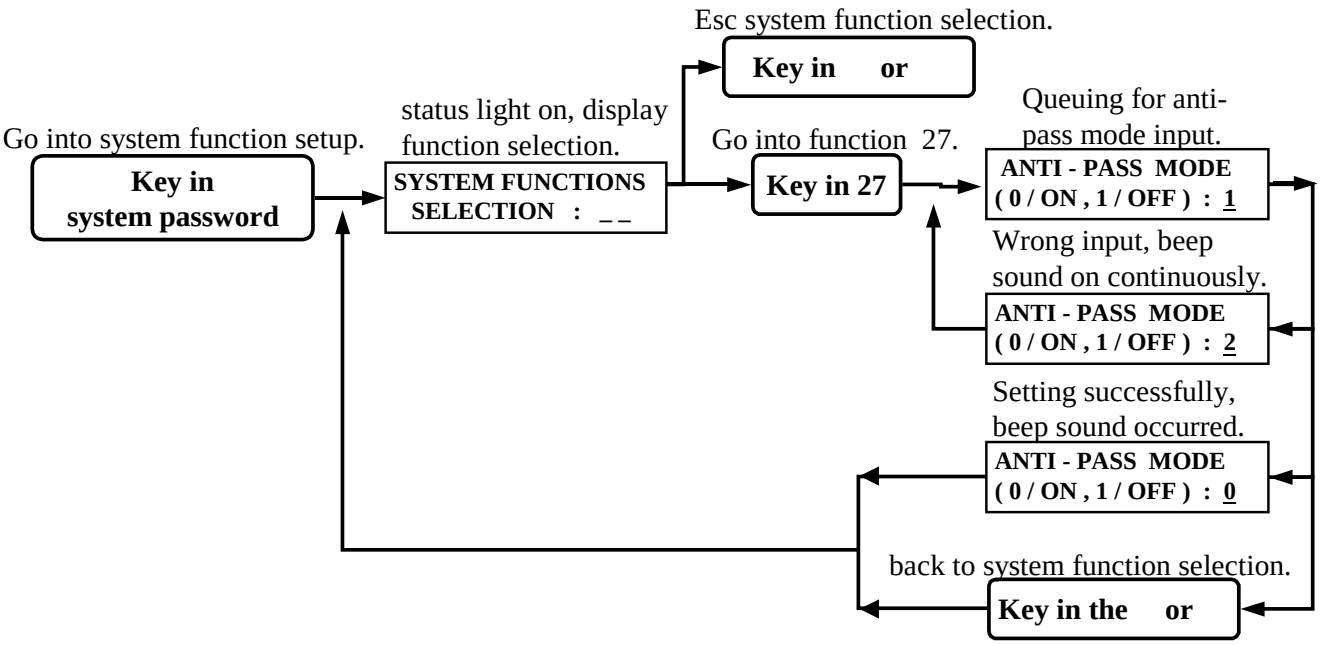
Function (26) Print mode:

(0) shows “ON”, (1) shows “OFF”. (pre-setting figure is 001) Once set at “ON”, stored data can be printed out immediately.



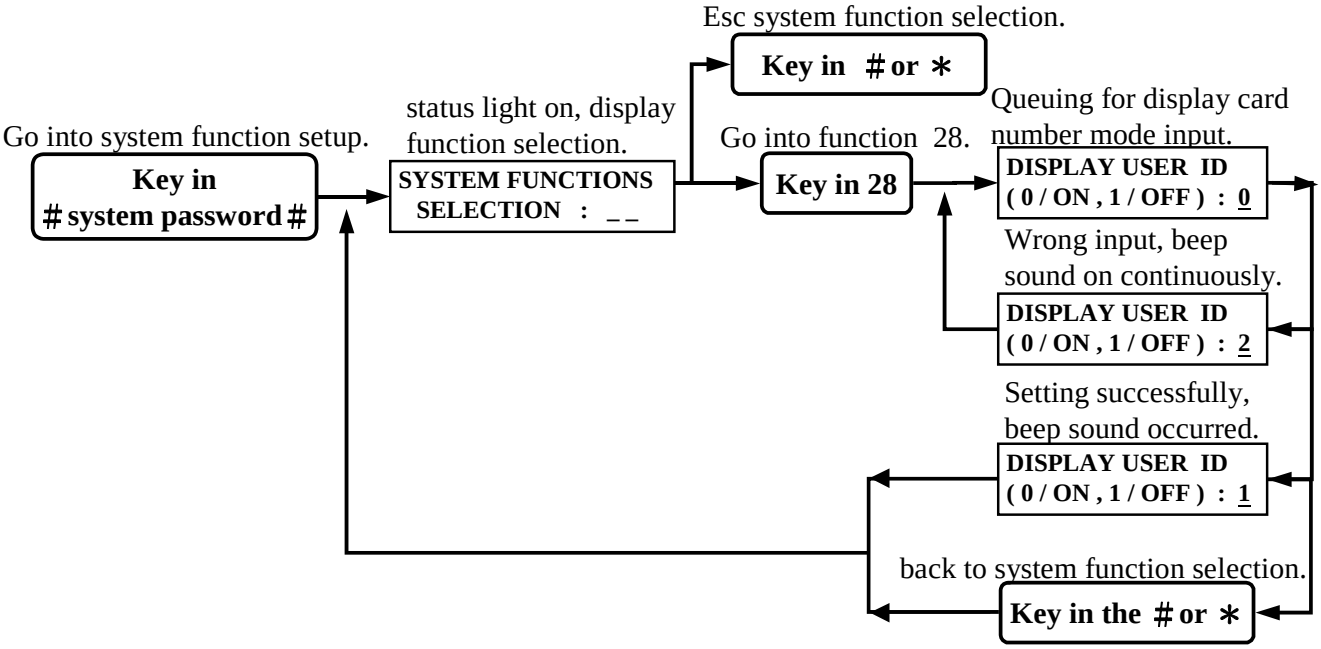
Function (27) Anti-pass mode:

(0) shows " ON", (1) shows "OFF". (pre-setting figure is 001) Once set at "ON", the card could only be used for matching single entry and exit. This is to prevent double entry by using the same card if card has been duplicated.



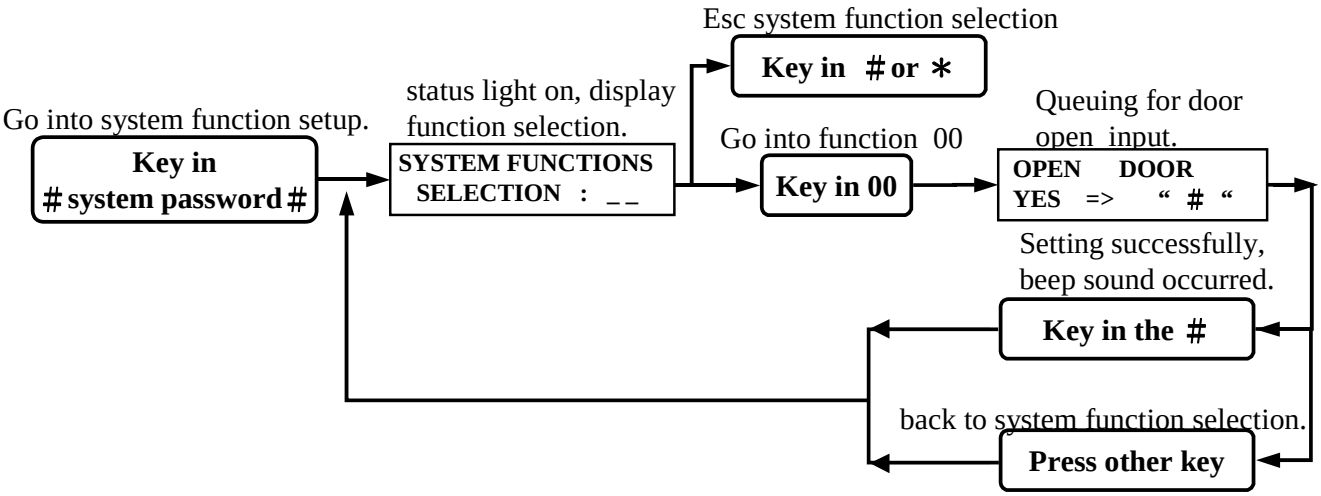
Function (28) Display card number mode:

(0) shows "ON", (1) shows "OFF". (pre-setting figure is 000). Once set at "OFF", LCD will not display the card number.



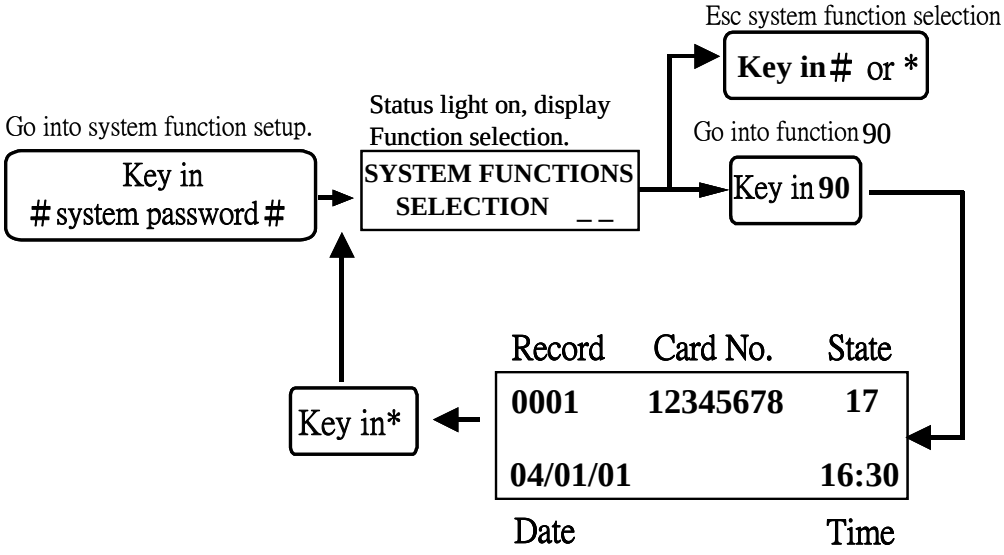
Function (00) Instant door open:

Authorized personnel could get into the setup mode to open the door when any emergency cases happened.



Function (90) Historical Data Inquiry:

Inquiring historical data from standalone unit.



Press 1: Minus one 2: Add one 3: Minus 10 4: Add 10 5: Middle

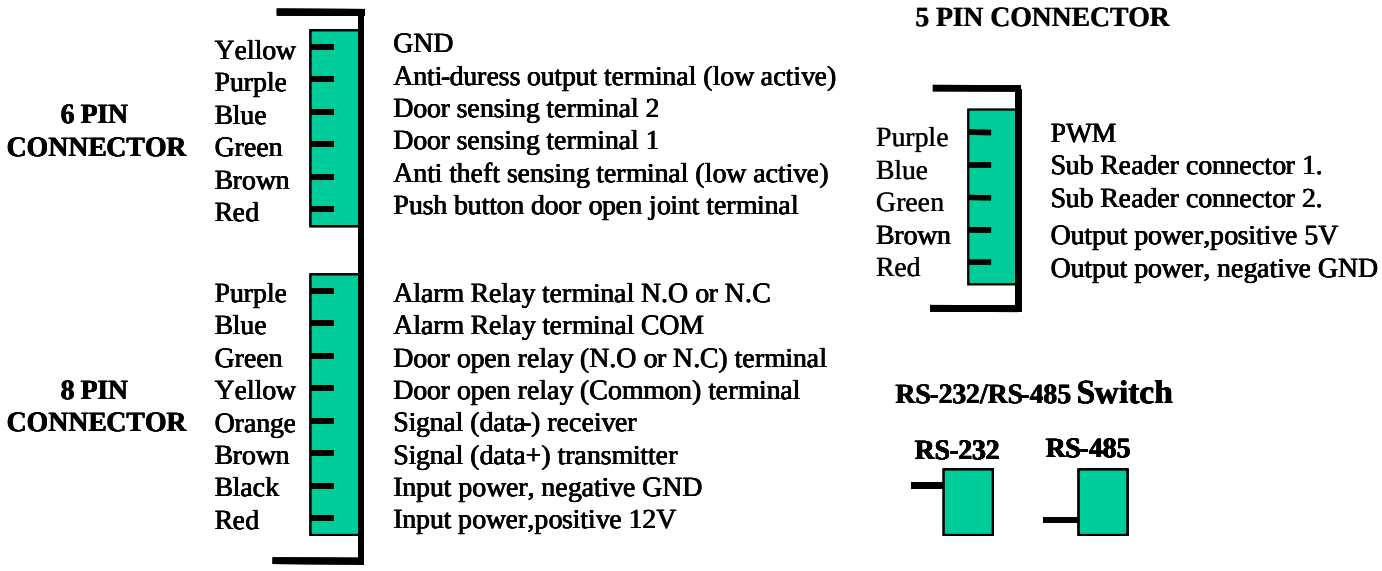
State:

01 Enter
02 Exit
03 Reader has already been taken apart
06 Push Button Door Open
17 Invalid Card No.
24 System Door Open

6. Reader installation instructions

(1)Reader connector

ST680 Wiring diagram



Note: (1) Door open relay electrical rating is 2A/24 VDC.

(2) Push button door open / door sensing / anti-theft sensing all are connection terminal. Any other power supplying is not allowed.

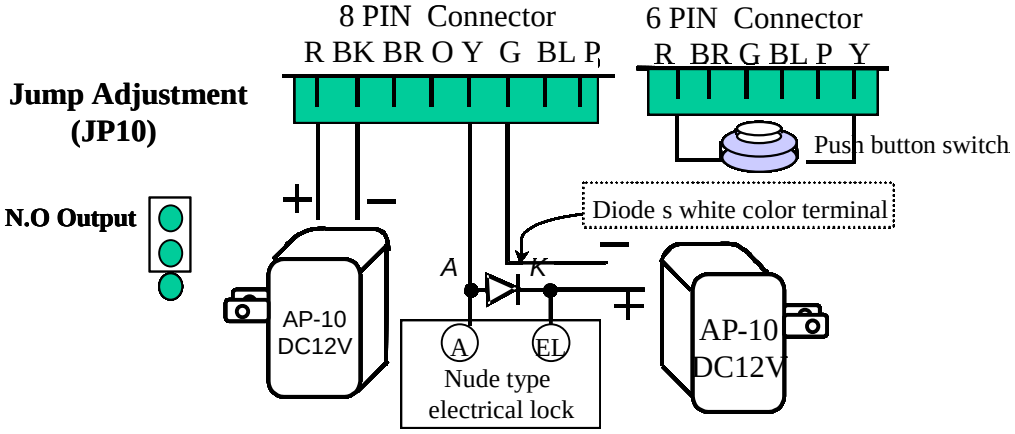
(3) In order to avoid any disturbance of read range, user is advised to use two separate adaptors.

(4) Related position of reader connector: Please refer to Appendix A.

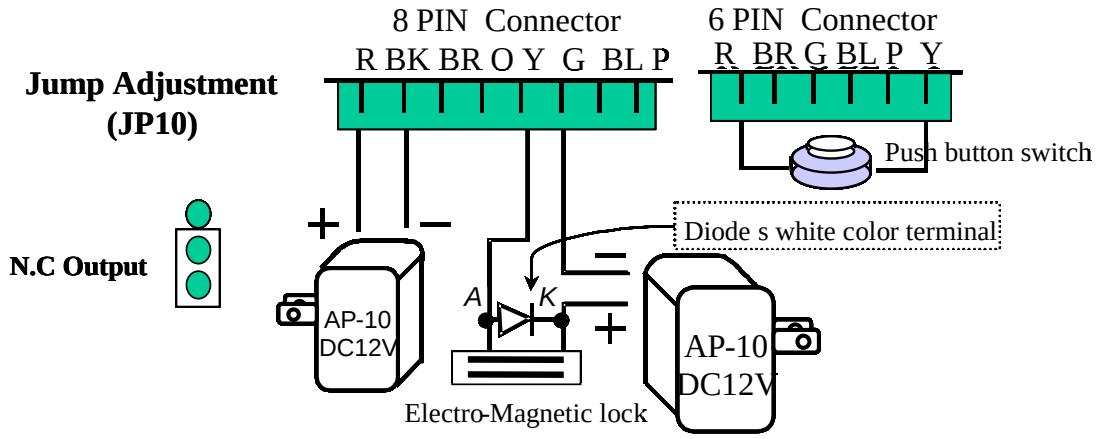
(2) Wiring connection for additional electric lock and push button door open switch.

As of different types of electric lock, the wiring methods are also different . Overall, there are two types of wiring instructions as below:

(a) Fail secure :



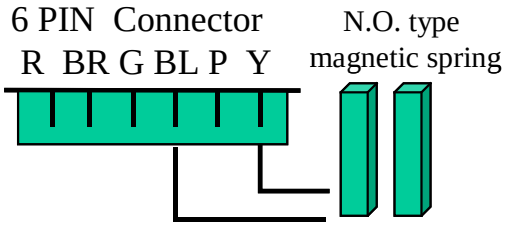
(b) Fail safe :



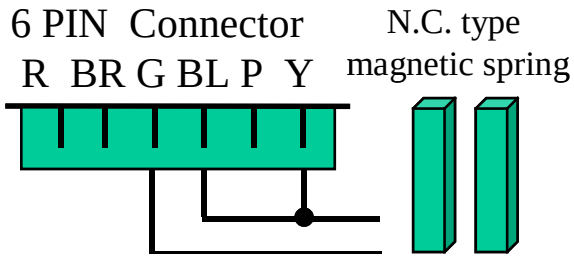
Note: User must ensure the polarity (Diode) of the wiring connection for additional electric lock is arranged correctly so that it is functional.

(3)Wiring connection for additional magnetic door sensing.

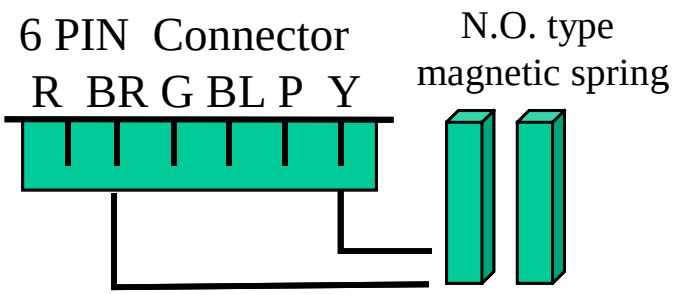
(a) N.O. type magnetic spring **:**



(b) N.C. type magnetic spring **:**

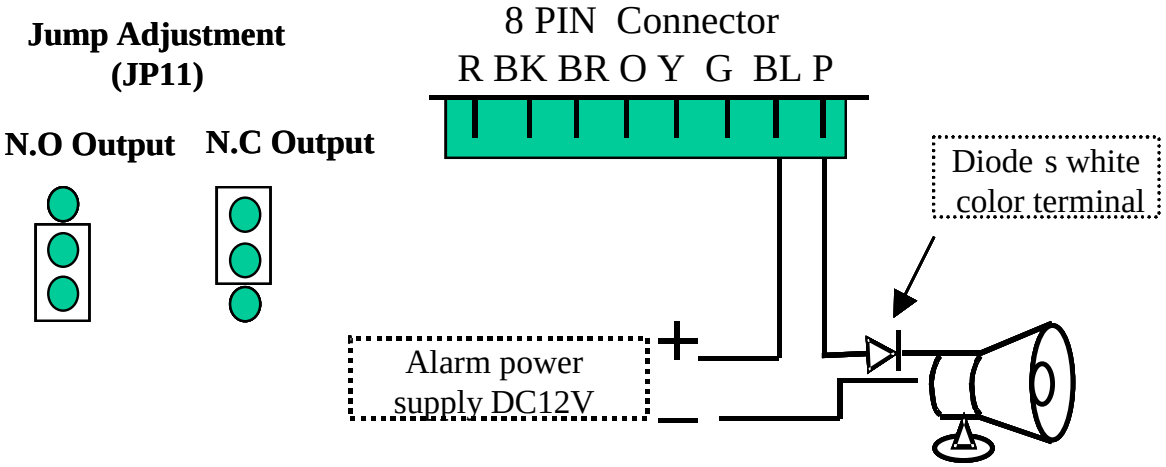


(4) Wiring connection for anti-theft sensing. (N.O. type)



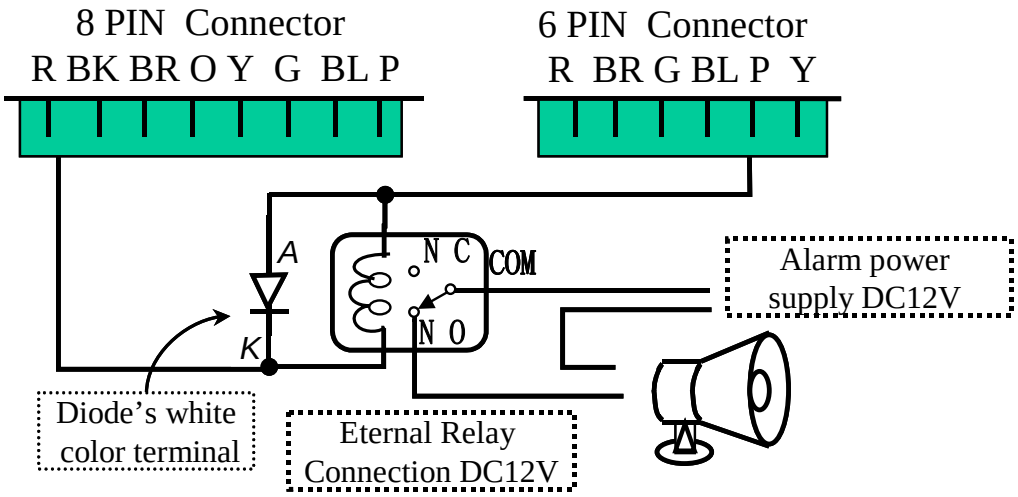
(5) Wiring connection for additional alarm.

(a) Alarm :



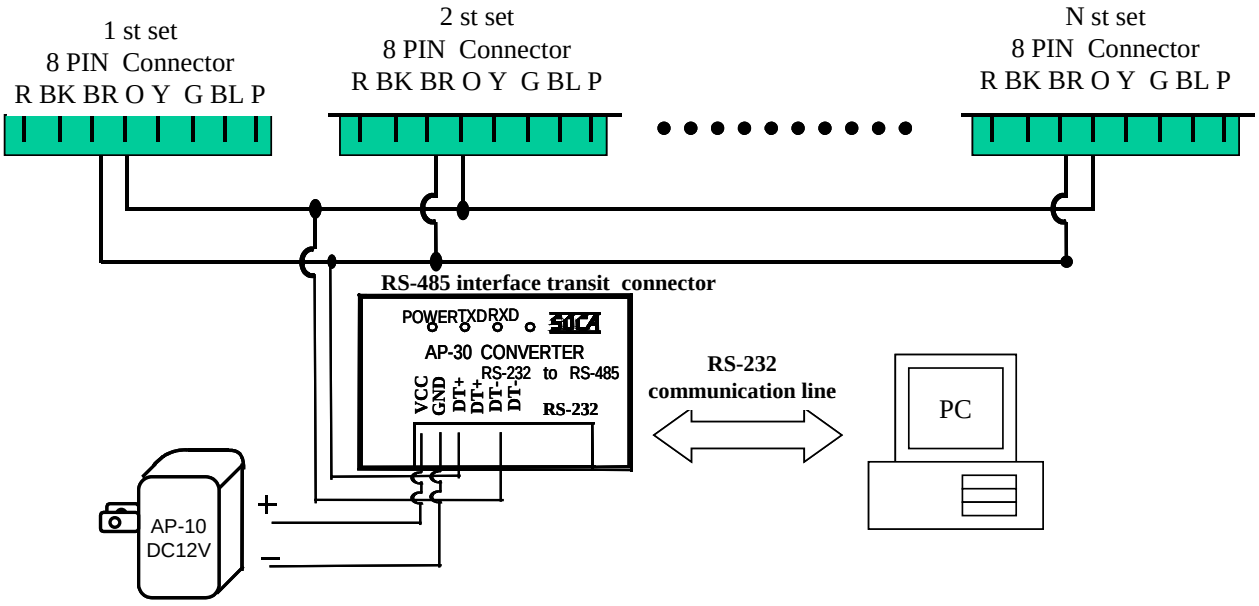
Note: **User must ensure the polarity (Diode) of the wiring connection for additional alarm is arranged correctly so that it is functional. User must also ensure that Setting Mode (20) Alarm Mode is set ON.**

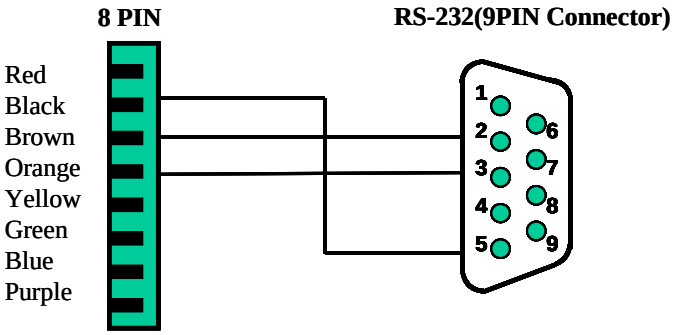
(b) Anti-duress alarm :



Note: **User must ensure the polarity (Diode) of the wiring connection for additional anti-duress alarm is arranged correctly so that it is functional. User must also ensure that Setting Mode (21) Anti-Duress Alarm Mode is set ON.**

(6) Wiring connection for linking with computer





7.HARDWARE SPECIFICATIONS

- Power supply : DC 12V / 1A, Adapter.
- Working environment : Temperature 0℃– 60℃, Humidity: 15% - 85%.
- LCD : 16*2 STN LCD display with 4 LED's indicators.
- Buttons : 12 stainless steel buttons.
- Real Time Clock : Internal equipped with a Real Time Clock (RTC) IC.
- RAM : 128 KB memory.
- Power backup system : Equipped with standby battery for saving if power is cut.
- Communication system : Equipped internally with RS-485 interface. It can be expanded to 255 terminals linking with computer operation simultaneously.
- Output control system :

(A) Alarm output terminal can be connected with additional external alarm unit for sounding.
(B) Open door output terminal can be matching used with electric lock for access control.
(C) Anti-duress output terminal can be connected with hidden alarm to send help signal to the nearest police station.

- Input sensing system :

(A) Push button door open sensing point. Door will open instantly when button is pressed.
(B) Door status terminal can be connected with external magnetic spring for sensing if the door is closed or not.
(C) Anti-theft sensing terminal can be connected with external magnetic spring for sensing if any appliances are closed or not.
(D) Anti-tamper sensing terminal uses to sense if the reader is being tampered by force.

8. ATTENTIONS

1. Confirm the power supply voltage and polarity before installation to prevent any wrong connection that causes damage to the reader.
2. Use separate power supply to the electric lock and the proximity reader.
3. Do not install the reader nearby any metal equipments or detector area to prevent interference of read distance.
4. Do not try to fix or modify the reader without authorized electrician. The reader is guaranteed for one year.

9. TROUBLESHOOTING

1. Reader has no reaction or door does not open with proximity card.

Solution: (1) Please check if the POWER light (red) is on. If not, please check the power supply to turn the reader on.
(2) Please check if the proximity card is defected. User may use another proximity card to test.
(3) Please check if personal password is entered incorrectly or the user is still in the setup mode.
(4) Continuous proximity. Please remove the card form the reader and try again.
(5) Check if the DENY light (yellow) is on and continuous beep sound occur. This indicates the user's proximity card is not registered yet.
(6) Please check if OK light (green) is on and door-opening sound can be heard at the

same time. If door is still not opened, please ensure that if the wiring or power supply of electric lock is installed properly or broken.

2. System password is entered but user cannot enter into various function selection of the setting mode.

Solution: (1) System password is entered incorrectly. Please check if the following step has been entered correctly. [#] **X X X X** [#], (**X X X X** represent system password), or press [*] button first and then enter the correct system password [#] 5 6 7 8 [#].

(2) Bad wiring arrangement may affect key enter data. Please confirm that the power supply wire and the control wire have been arranged to the space at the back of the LCD (this is the wiring arrangement area of this unit). This is to prevent the wires pressing on the PC board causing bad contact, short circuit and interference.

3. How to use anti-duress setting?

Solution: (1) Please change the door open mode to mode 3. Therefore, door will be opened only by keying additional 4-digit password after sensing the registered proximity card.

(2) When the door open mode is set, press anti-duress code (user can pre-set the anti-duress code) before entering 4-digit password, thus the anti-duress alarm will be activated.

APPENDIX A

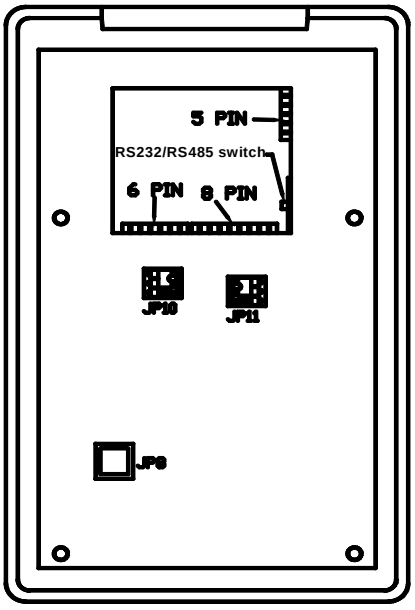
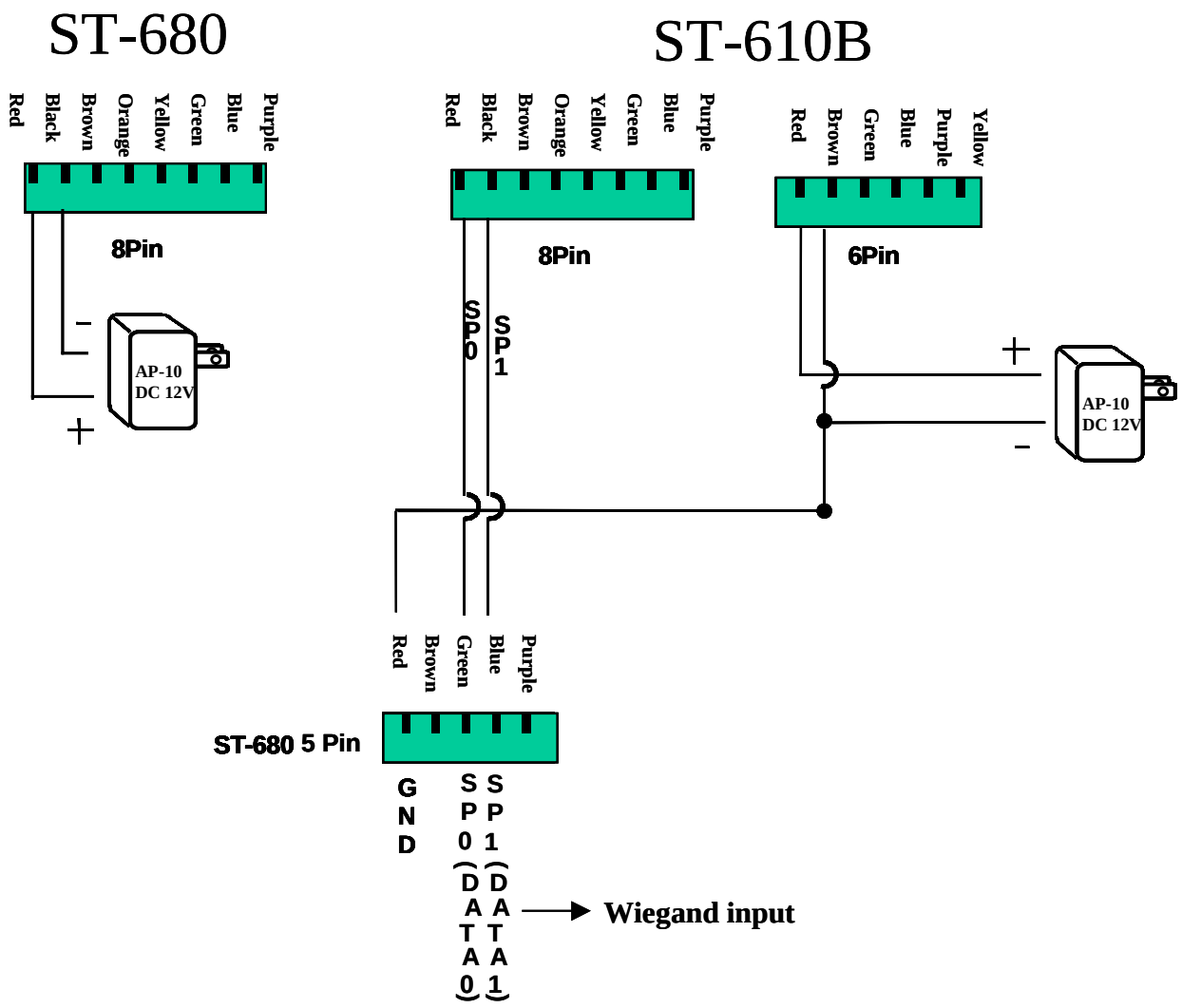
Installation Steps:

Step 1, 2 Secure power supply wire and control wire through the base panel.

Step 3 Fit the reader on the base panel (power supply wire and control wire must first be inserted and the wires must be arranged correctly)

Step 4 Use enclosed key wrench and screws to mount the reader up.

Related position of reader connector:



Wiring diagram of ST-680 and ST-610B