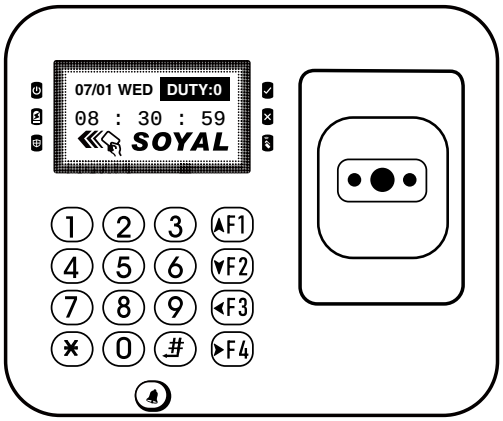
Graphic Display Proximity / QR Code Controller
AR-837-EL



1. Product Features

- Built-in RFID and QR Code scanning technology, providing temporary access by QR Code and normal access by RFID card
- Support Date Limit or Frequency limit of QR Code access, with higher security!
- It is suitable for places that require the use of regular and short-term access, such as visitor systems, temporary building permit, dormitory, suite management, and etc.

2. Application

- **Access Control Solution**

► QR Code Integration Solution and Example

► Bluetooth Module & QR Code Various Integration Applications & Command Explanation

3. How to Order

AR-837	EL	X	R	1	1	B	1	X

Frequency
B = 125kHz
D = 13.56MHz
S =125KHz+13.56MHz

Communication
1 = RS485

Color
B = Black Edge
1 = Silver Edge

Additional Module
A = TCP/IP Module
P = POE Module

Product Category
EL = E Series Access Controller

RTC
R = Built-in RTC

Waterproof
1 = Weatherproof

Language(LCD)
1 = English/Chinese

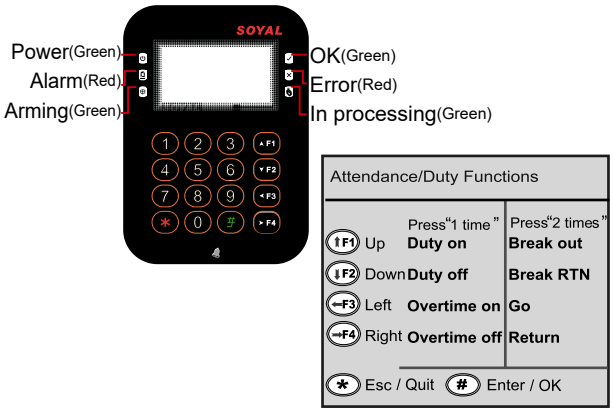
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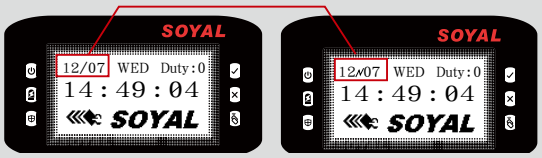
QR Code Access Controller

V241225

01. Function Description of Front Panel & Indicator



1. System will automatically exit Programming Mode when inactivating for 30 seconds.
2. LED status indicates controller's mode and status.
   OK (green) – blinking constantly when operating in Programming Mode
   – or flashing an existed card in card learn mode, it comes 2 beeps warning and LCD panel displays "Same Card: user address / card number"
   Error (red) – invalid card with 2 beeps warning and LCD panel displays "Card Number Err!"
   – or in anti-pass-back mode, when violates the access, it comes one beep warning and LCD panel displays "Anti-pass Error!"
   Arming (green) – arming on status
   Alarm (red) – any abnormal condition occurs
3. Keypad will be locked up 30 sec. when incorrect pin code or master code is constantly entered.
4. Maximum error input of pin code and master code can be changed via the software 701Server (default: 5 times)



Networking : / and ⁄ interactively flash between the Month and DAY.
[e.g.] 12/07←→12⁄07

Stand-alone : No flashing [e.g.] 12/07

(←Reference to picture)

02. Manu Tree

※ **The full screen menu setting is on** [Full Function Command Menu Table]

1. Add/ Delete
1. Add > Card ID
2. Add > RF Learn
3. Suspend > Address
4. Suspend > ID #
5. Delete > Address
6. Delete > ID #
7. Recover > Address
8. Recover > ID #
9. Antipass Group

2. User Setting
1. Password
2. Access Mode
3. Extend Options
4. Single Floor
5. Multi Floor
6. Enroll Finger
7. Delete Finger

3. Parameters[1]
1. Node ID
2. OnOff OpenZone
3. Door Relay Tm
4. Door Close Tm
5. Alarm Relay Tm
6. Alarm Delay Tm
7. Arming Delay Tm
8. Arming PWD

4. Parameters[2]
1. Auto Relock
2. Egress(R.T.E)
3. Miscellaneous
4. Force Open
5. Close & Stop
6. Anti-pass-back
7. Duress Code
8. Password Mode
9. Factory Reset

5. Tools
1. Language
2. Master Code
3. Master Range
4. Terminal RS-485
5. Ext.Comm CN11
6. Open Time Zone
7. Informations
8. Clock Setting
9. Daily Alarm

0. UART Port CN9
A. Event Logs

6. Quit

7. Quit & Arming

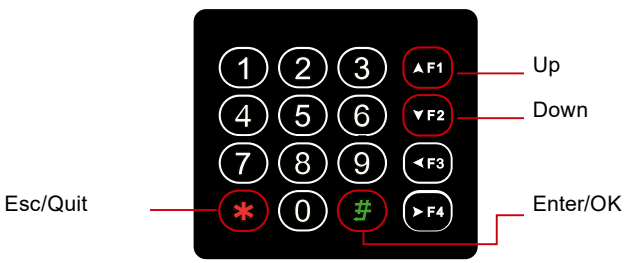
03. Full Function Command Menu Table

- **Entering**

  Input *123456# or *PPPPPP#

  [e.g.] The Default Value= 123456. If already changed the Master Code= 876112, input *876112# → Access programming mode

  P.S.If no instruction is entered within **30 sec.**, it will automatically leave the programming mode.



1. Add/ Delete

1-1. Add -> Card ID

1-1-1
User Address:
00000 XXXXX
Range: (0-16383)

1-1-2
Set (User Address) Code:
00000 XXXXX
(1-10 Digital)

1-1-3
Set (User Address) Code:
00000:_XXXX
Range: (0-65535)

1-2. Add -> RF-learn

1-2-1
User Address:
F3: Prev F4: Next
Range: (0-016383)

1-2-2
Tag Uints (pcs)
Must be Sequence
Range: (1-016378)

1-2-3
Close Tag
Into RF Area

1-3. Suspend -> Address

1-3-1
Input Start Address
Range: (0-16383)

1-3-2
Input End Address
Range: (0-16383)

1-4. Suspend > ID #

1-4-1
Set Site:
00000:XXXXX
Range: (0-65535)

1-4-2
Set Code:
00000:XXXXX
Range: (0-65535)

1-5. Delete > Address

1-5-1
Input Start Address
Range: (0-16383)

1-5-2
Input End Address
Range: (0-16383)

1-6. Delete > ID #

1-6-1
Set Site:
00000:XXXXX
Range: (0-65535)

1-6-2
Set Code:
00000:XXXXX
Range: (0-65535)

1-7. Recover > Address

1-7-1
Input Start Address
Range: (0-16383)

1-7-2
Input End Address
Range: (0-16383)

1-8. Recover > ID #

1-8-1
Set Site:
00000:XXXXX
Range: (0-65535)

1-8-2
Set Code:
00000:XXXXX
Range: (0-65535)

1-9. Antipass Group

1-9-1
Input Start Address
Range: (0-16383)

1-9-2
Input End Address
Range: (0-16383)

1-9-3
Enable Antipass
0: NO 1: YES
Data: 0

2. User Setting

2-1. Password

2-1-1
User Address:
F3: PreV F4: Next
Range (0-016383)

2-1-2
Input PIN Code
Rang: 0000~9999

2-2. Access Mode

2-2-1
User Address:
F3: Prev F4: Next
Range (0-163833)

2-2-2
0: Invalid 1: Card
2: Card or PIN
3: Card & Pin

2-3. Extend Options

2-3-1
User Address:
F3: Prev F4: Next
Range (0-16383)

2-3-2
Is Guard User
0: NO 1: YES

2-3-3
Enable Antipass
0: NO 1: YES
Data: 1

2-4. Single Floor

2-4-1
User Address:
F3: Prev F4: Next
Range (0-016383)

2-4-2
Set Single Floor
(Range: 01~64)
Clear the Others

2-5. Multi Floors

2-5-1
User Address:
F3: Prev F4: Next
Range: (0-016383)

2-5-2
Select Range:
1: 01-16 2: 17-32
3: 33-48 4: 49-64

2-5-3
0->NO 1->YES
Current Setting:
1000000000000000

3. Parameters [1]

3-1. Node ID

3-1-1
Input New NodeID
Range: 001~254
Current Data: 001

3-1-2
Main Door Number
Range: 000~255

3-1-3
WG1 Door Number
Range: 000~255

3-1-4
Show WG Message
0: NO 1:Enable
1

3-1-5
Enable DHCP
0: No 1: En 2: Exit
192.168.001.127*
0

3-1-6
IP Address (IPv4)
192.168.001.127
192.xxx.xxx.xxx

3-1-7
Net Mask (IPv4)
255.255.255.000
255.xxx.xxx.xxx

3-1-8
Gateway (IPv4)
192.168.001.254
192.xxx.xxx.xxx

3-2. OnOff OpenZone

3-2-1
Main Controller
Auto Open Zone
Dis/Enable (0/1)
0

3-2-2
WG1 Port Auto Open
Zone Dis/Enable (0/1)
0

3-3. Door Relay Tm

3-3-1
Main Door OpenTm
Range: 000~609
601~609=0.1~0.9
007

3-3-2
WG1 Door OpenTm
Range: 000~609
601~609=0.1~0.9
007

3-4. Door Close Tm

3-4-1
Main Door Close
delay time (Sec)
Range: 000~255
015

3-4-2
WG1 Door Close
delay time (Sec)
Range: 000~255
015

3-5. Alarm Relay Tm

3-5-1
Alarm Relay Time
Range: 000~609
601~609=0.1~0.9
015

3-6. Alarm Delay Tm

3-6-1
Alarm Output
Delay time (Sec)
Range: 000~255

3-7. Arming Delay Tm

3-7-1
Enter armed sta.
Delay time (Sec)
Range: 000~255
001

3-7-2
Armed Pulse out-
put time. (10ms)
Range:000~255
000

3-8. Arming PWD.

3-8-1
Input PIN Code
Range: 0000~9999
1234

3-9. PIN&UID format

3-9-1
User PIN Length
Range: 4~8
4

3-9-2
Card UID Length
Range: 2~8
4

3-9-3
Show UID :0=No
1=WG 2=ABA
3=HEX 4=WG26
5=ABA8
1

3-9-4
NFC 13.56MHz RF
0: Disable
1: Enable
1

3-9-5
RFID 125KHz RF
0: Disable
1: Enable
1

3-9-6
'#' is Door Bell
0: Disable
1: Enable
0

3-9-7
User Capacity:
0: 16384 1: 32768
2: 65536 (0~2)
0

3-9-8
Enable Buzzer
0: NO 1: YES
1

※User PIN Length Range:4~8(4 is default value)；Card PIN Length Range:2~8(4 is default value)

4. Parameters [2]

4-1. Auto Relock

4-1-1
Main Controller
Auto Relock Door
0: NO 1:YES
0

4-1-2
WG Prot
Auto Relock Door
0: NO 1:YES
0

4-2. Egress(R.T.E)

4-2-1
Main Controller
Request To Exit
0: Dis 1:Enable
0

4-2-2
WG1 Port
Request To Exit
0: Dis 1:Enable
0

4-3. Miscellaneous

4-3-1
Main Controller
TimeAttendance
0: YES 1: NO
0

4-3-2
WG1 Port
TimeAttendance
0: YES 1: NO
0

4-3-3
Main Controller
Skip PIN Check
0: NO 1: YES
0

4-3-4
WG1 Port
Skip PIN Check
0: NO 1: YES
0

4-3-5
Main Controller
Pass any Tags
0: NO 1: YES
0

4-3-6
WG1 Port
Pass any Tags
0: NO 1: YES
0

4-3-7
WG1 Port
Share Main Relay
0: NO 1: YES
0

4-3-8
Tag Second time
interval (10ms)
Range: 0000~9999
0100

4-3-9
Max error times
for lock keypad
Range: (0~9)
5

4. Parameters [2]

4-3. Miscellaneous

4-3-10
Main Controller
On Egress Beeps
0: NO 1: Bi 2: Bibb
2

4-3-11
WG1 Port
On Egress Beeps
0: NO 1: Bi 2: Bibb
2

4-3-12
Lock Door Relay
0: NO 1: YES
0

4-3-13
Interlock to WG ?
0:NO 1:YES
0

4-4. Force Open ..

4-4-1
Main Controller
Force Open Alarm
0: NO 1: YES
0

4-4-2
WG1 Port
Force Open Alarm
0: NO 1: YES
0

4-5. Close & Stop

4-5-1
Main Controller
Close Door Stop
Alarm 0: NO 1:YES
0

4-5-2
WG1 Port
Close Door Stop
Alarm 0: NO 1:YES
0

4-6. Anti-passback

4-6-1
Main Controller
Anti-passback
0: NO 1: YES
0

4-6-2
WG1 Port
Anti-passback
0: NO 1: YES
0

4-7. Duress Code

4-7-1
Input PIN Code
Range: 0000~9999

4-8. Password Mode

4-8-1
Password Mode
0: Addr. & PIN(M4)
1: PIN(M8) 2:M6
1

4-9. Factory Reset

4-9-1
0: System Param.
1: User Setting
2: System & User
2

5. Tools

5-1. Language

5-1-1
0: English (USA)
1: Chinese (TW)
0

5-2. Master Code

5-2-1
Input MasterCode
000001~999999
123456

5-3. Master Range

5-3-1
Input Start Addr
Range: (0-16383)
000000

5-3-2
Input End Addr
Range: (0-16383)
000000

5-4. Terminal RS485

5-4-1
0: Lift 1: Host
2:LED 3: PRN
1

5-4-2
Baud Selection
0: 9600 1: 19200
2: 38400 3: 57600

5-5. Ext.Comm CN11

5-5-1
0: Suspend 1:Lift
2: Voice 3: PRN
1

5-5-2
0: 4800 1: 9600
2: 19200 3: 38400
1

5-5-3
Elevator floor
button available
Range: (1~600)
000

5-6. Open Time Zone

5-6-1
Set <F1~F4,#>: 01
00:00~00:00 ..
SuMoTuWeThFrSaHo
0 0 0 0 0 0 0 0

5-6-2
Time=00:00~00:00
Main Port (0/1):0
WG Port (0/1):0

5-6-3
Weekday: (0/1)
SuMoTuWeThFrSaHo
X X X X X X X X
0 0 0 0 0 0 0 0

5-7. Informations

5-7-1
F/w Ver: 4.4T
Users: 00000
Messages: 00000
Press any Key ...

5-8. Clock Setting

5-8-1
YY: XXXX MM: XX
Day: XX Hour: XX
Min: XX Sec: XX

5-8-2
Month/Day Format
0: DD/MM 1: MM/
DD

5-9. Daily Alarm

5-9-1
Set <F1~F4,#>: 01
00:00 Sec.=000
SuMoTuWeThFrSaHo
0 0 0 0 0 0 0 0

5-9-2
Start Tm=00:00
Effect Sec.=000

5-9-3
Weekday: (0/1)
SuMoTuWeThFrSaHo
X X X X X X X X
0 0 0 0 0 0 0 0

5-0. UART Port CN9

5-0-1
0: Lift9600 1: PRN
2: LED 3: Voice
0

5-0-2
Elevator floor
button available
Range: (1~600)
015

5-A. Event Logs

5-A-1
20'06/04 2359:26

(M24)Controller
Power On 00000

※**More Details**：[Introduction of New Function Commands for Enterprise E Controller and Home H Controller]

6. Quit

7. Quit & Arming

04. Programming

A. Keyboard Lock/ Unlock

- **Lock/ Unlock**
  Press * and # simultaneously to lock keyboard. Press simultaneously again to unlock.

B. Entering and Exiting Programming Mode

- **Entering**
  Input *123456# or *PPPPPP#
  [e.g.] The Default Value= 123456. If already changed the Master Code= 876112, input *876112# → Access programming mode
  P.S.If no instruction is entered within **30 sec.**, it will automatically leave the programming mode.

- **Exiting**
  Press the * * repeatedly → 6 Quit or 7 Quit and Arming (Please refer to alarm / arming setting)

- **Changing the Master Code**
  Access programming mode → 5 Tools → 2 Master Code → Input the 6-digit new master code → Succeeded

C. Initial setup

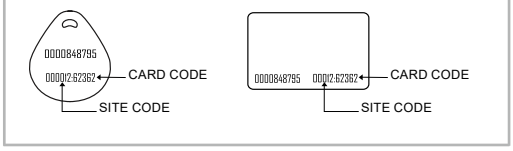
- **Language Setting**
  Access programming mode → 5 Tools → 1 Language → 0 EN → Succeeded → Initial system...

- **Node ID of Reader Setting**
  Access programming mode → 3 Parameters[1] → 1 Node ID → **Input New Node ID : 1~254** (default value:001) → **Main Door Number : 0~255** → **WG1 Door Number : 0~255** → **Show UID (0=No, 1=WG, 2=ABA, 3=HEX)** → **Enable DHCP(0:No, 1:En, 2=Exit)** → Succeeded

D. Adding and Deleting Tag

※ User capacity: 16384 (00000~16383)

Tag Information



- **Adding Tag by Tag ID**
  Access programming mode → 1 Add/Delete → 1 Add -> Card ID → **Input 5-digit user address** → **Input Site Code** → **Input Card Code**

- **Adding Tag by RF Learn Function**
  Access programming mode → 1 Add/Delete → 2 Add -> RF-Learn → **Input 5-digit user address**
  → **Input Tag Units(pcs)** → **Close Tag into RF Area**
  ※If the batch of tags are **Sequential**, input Tag Units(pcs) in the quantity of the tags and present the tag with the **lowest number** to the controller for adding all the tag data; otherwise, the tags must be presented to the controller individually

- **Suspend User Address**
  Access programming mode → 1 Add/Delete → 3 Suspend -> Addr → **Input Start address** → **Input End address**

- **Suspend Tag by Tag ID**
  Access programming mode → 1 Add/Delete → 4 Suspend -> ID # → **Input Site Code** → **Input Card Code**

- **Recover User Address**
  Access programming mode → 1 Add/Delete → 7 Delete -> Addr → **Input Start address** → **Input End address**

- **Recover Tag by Tag ID**
  Access programming mode → 1 Add/Delete → 8 Delete -> ID # → **Input Site Code** → **Input Card Code**

- **Deleting User Address**
  Access programming mode → 1 Add/Delete → 5 Delete -> Addr → **Input Start address** → **Input End address**

- **Deleting Tag by Tag ID**
  Access programming mode → 1 Add/Delete → 6 Delete -> ID # → **Input Site Code** → **Input Card Code**

- **Setting up the access mode**
  Access programming mode → 2 User Setting → 2 Access Mode → **Input User Address** → **0: Invalid; 1: Card ; 2: Card or PIN; 3: Card & PIN**

E. PIN Code

Access programming mode → 2 User Setting → 1 Password → **Input 5-digit user address** → **Input 4-digit PIN (0001~9999)** → Succeeded
Or via 701Client set it on Users screen

F. Access Mode

Access programming mode → 2 User Setting→ 2 Access Mode→ Key in 5-digit user address (00000~08999)
→ **0: Invalid; 1:Card; 2: Card or PIN; 3: Card and PIN** → Succeeded

※ If you choose an Access Mode that requires a PIN, Please follow the quick command 4. Parameters(2)> 3. Miscellaneous and Pay attention to the choices in Time attendances / miscellaneous settings:
Main controller skip PIN check. Select 0: NO
WG1 Port skip PIN check. Select 0: NO
If the PIN setting and the Access mode do not match, it will affect the controller's interpretation error and prevent access.

G. Arming Password

Access programming mode → 3 Parameters[1] → 8 Arming PWD → **Input 4-digit PIN (0001~9999; Default: 1234)** → Succeeded
Or via 701Server and set it on AR-829E screen

H. Arming Delay Time

Access programming mode → 3 Parameters[1] → 7 ArmingDelayTm → **Enter armed sta. Delay time(Sec), Range:000~255 ;**
Armed pulse out-put time (10ms) ,Range : 000~255 → Succeeded

I. PIN & UID Length setting

Access programming mode → 3 Parameters[1] → 9 PIN & UID format → **User PIN Length Range:4~8(4 is default value) ;**
Card PIN Length Range:2~8(4 is default value)

J. Duress Code

Access programming mode → 4 Parameters[2] → 7 Duress Code → **4 sets (select one)** → **Input 4-digit PIN (0001~9999)** → Succeeded
Or via 701Server to set it on AR-829E-V5 screen
※Duress Code is only available in networking mode. It will substitute a personal pin code and send the message of Duress to computer as a warning signal.
※The Duress Code 0000 means that disable Duress Function and the default value is set as 0000 already.

K. Terminal Port

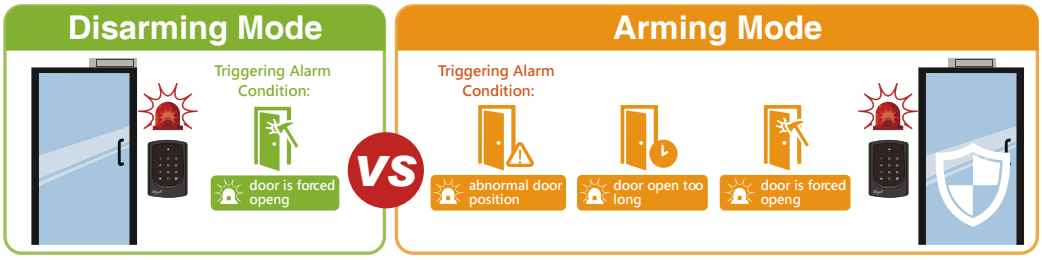
Access programming mode → 5 Tools → 4 Terminal Port → **0:Lift ; 1:Host ; 2:LED ; 3:PRN (default value:1)** → **Baud Selection (default value:9600)** → Succeeded

L. Setting up the alarm / arming

In the security management of access control system, the controller or reader status is divided into Standby Mode or Disarming Mode and Arming Mode. The conditions for triggering the alarm in these two modes is different, as shown in the following comparison:

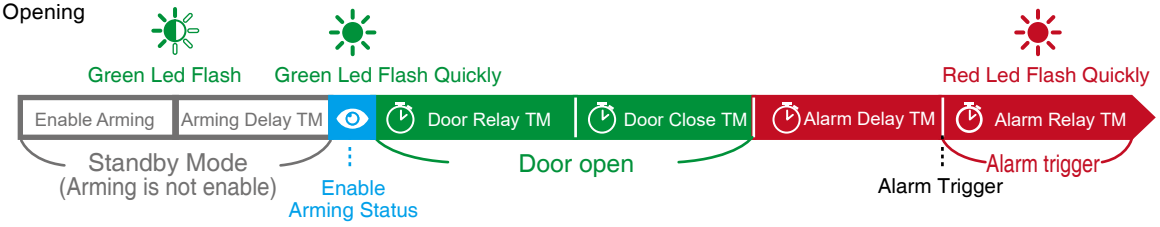
- **Alarm conditions:**
  1. Door is forced open

- **Application:**
  1. Door open too long: Door is open longer than door relay time plus door close time.
  2. Force open (Opened without a valid user card): Access by force or illegal procedure.
  3. Door position abnormal: Arming is enabled and the power is suddenly off then on.

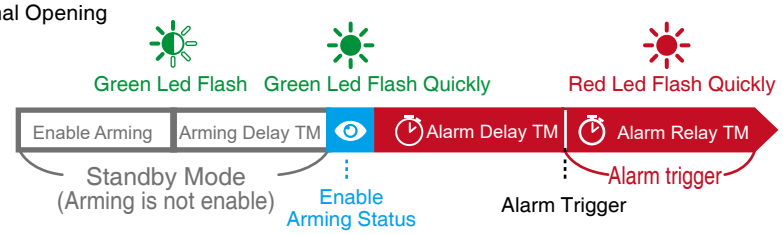


- **Arming Setting and Alarm Trigger Procedure :**

1.Normal Opening



2.Abnormal Opening



- **Enable Arming status:**

Standby Mode			
Card only		**Card or Passcode**	**Card and Passcode**
Enable all devices	**Enable particular device**	Input 5 digit user address → Input 4 digit pass code → # → Input 4 digits arming code → * * # or * 0 or 1 #	Induct valid card → Input 4 digit pass code → # → Input 4 digits arming code → * * # or * 0 or 1 #
Induct valid card → Input 4 digit arming code → * * #	Induct valid card → Input 4 digit arming code → * 0 or 1 # or #		
Enter Program Mode			
Enable all devices: Access programming mode → * * #		**Enable particular device:** Access programming mode → * * 0 or 1 #	

- **Disable Arming status:**

Standby Mode			
Card only		**Card or Passcode**	**Card and Passcode**
Disable all devices	**Disable particular device**	Input 5 digit user address → Input 4 digit pass code → # → Input 4 digits arming code → * 9 # or * 0 or 1 #	Induct valid card → Input 4 digit pass code → # → Input 4 digits arming code → * 9 # or * 0 or 1 #
Induct valid card → Input 4 digit arming code → * 9 #	Induct valid card → Input 4 digit arming code → * 0 or 1 # or #		

※ **Factory default armingcode is: 1234. 0 or 1=Reader unit (0=Main Controller Parameter Setting,1=WG Input Port Parameter Setting).**

- **Enable/Disable the arming status:**

Standby Mode			
Card only		Card or PIN	Card and PIN
Open the door	No open the door	**Input user address → Input 4-digit individual PWD → # → Input 4-digit arming PWD → #**	Present the tag to reader → **Input 4-digit individual PWD → # → Input 4-digit arming PWD → #**
Present the tag to reader → **Input 4-digit arming PWD → #**	* → **Input 4-digit arming PWD** → Present the tag to reader		
Access Programming mode			
Enable: Access programming mode → 7 Quit & Arming		**Disable:** Access programming mode → 6 Quit	

※ **[Use FP] can substitute for [Induct valid card].**

M. Anti-pass-back

While connecting with AR-721-U, AR-737-H/U(WG mode) and AR-661-U for anti-pass-back function, the access mode must be "Card" only.

- **Device enable**

  Access programming mode → 4 Parameters[2] → 6 Anti-pass-back → master controller select [1: Yes] → WG select [1: Yes]

- **Card user enable**

  Access programming mode → 1 Add/ Delete → 9 Antipass Group → **Input 5-digit starting user address** → **Input 5-digit ending user address** → must select [1: Yes]

N. Lift control

[e.g.] Connect with **AR-401RO16B** to control which floor the user will be able to access. (BAUD9600)

- **Setting Lift control**

  Access programming mode → 5 Tools → 4 Terminal Port → **0 : Lift Controller** → **Baud Selection 0 : 9600**

  Access programming mode → 5 Tools → 5 Terminal Port → **1 : Lift Controller**

  (need to use 725L485**)**

Set	Floor/ Stop															
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

- **Single floor**

  Access programming mode → 2 User Setting → 4 Single Floor →

  Input 5-digit user address → Input single floor number: 1~64

- **Multi floors**

  Access programming mode → 2 User Setting → 5 Multi Floor → **Input 5-digit user address → Select range: 1 or 2 or 3 or 4 → Input 16 digits multi floors number [0:disable, 1: enable]**

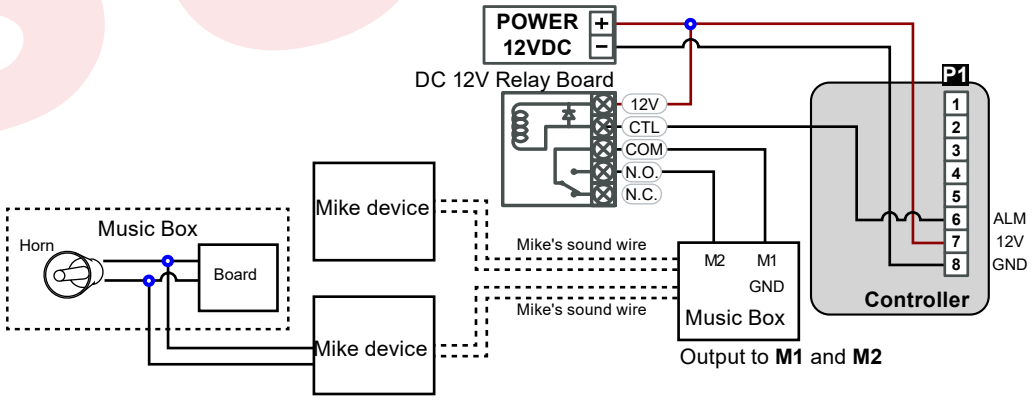
  [e.g.] Set NO. 114, can use it through the 8 F and 16F:

  Access programming mode → 2 User Setting → 5 Multi Floor → **114** # → **1** # → **0000000100000001** #

O. Alarm Clock (for Factory)

Access programming mode → **5** Tools → **9** Daily Alarm → **Set (00~15)** → **Set Start Tm (24 Hours) ; Set Effect Sec. (Seconds as the bell time, Range:1~255)** → **Set Weekday (0:disable, 1: enable)** → Succeeded

- **Hardware installation**



Q. OpenZone

Access programming mode → 3 Parameters[1] → 2 OnOff OpenZone → **Main Controller Auto Open Zone (0:disable, 1:enable)** → **Open Door Imm. During Open Zone (0:No, 1:Yes)** → **WG1 Port Auto Open Zone (0:disable, 1:enable)** → **Open Door Imm. During Open Zone (0:No, 1:Yes)** → Succeeded

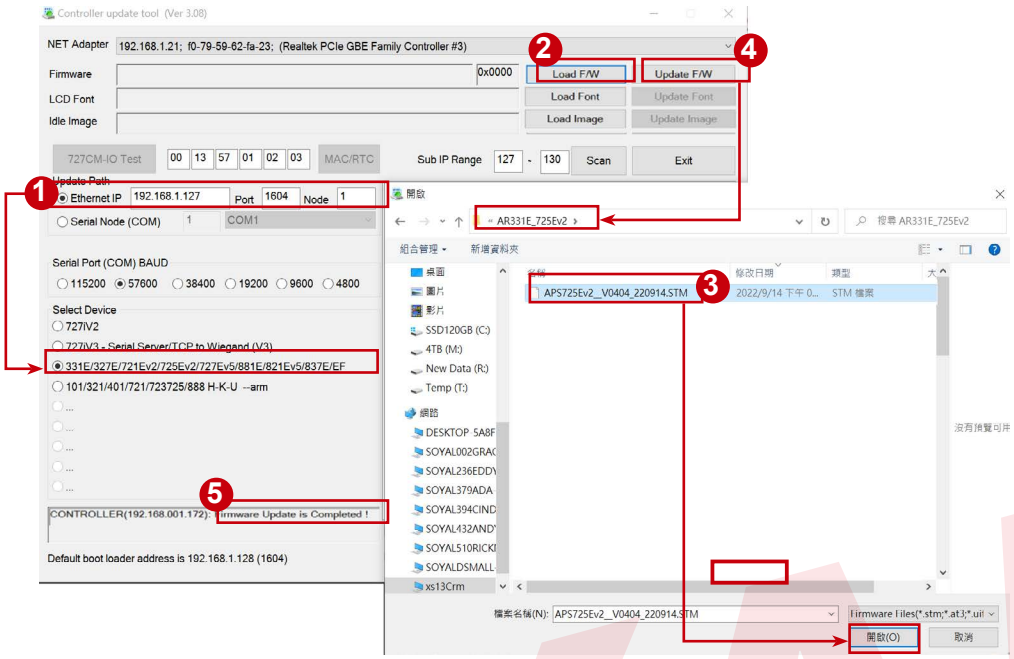
R. Open TimeZone

Access programming mode → 5 Tools → 6 Open TimeZone → **Set (00~15)** → **Time (24 Hours) ; Main Port (0:disable, 1: enable) ; WG Port (0:disable, 1: enable)** → **Weekday (0:disable, 1: enable)** → succeeded

05. Firmware Upgrade

Get the upgrade software from SOYAL or our distributor and run "UdpUpdater" software

- **Execute the software**  The software is Login the SOYAL web to downloads



- **Update the firmware**
  [Please login the SOYAL web to download the new ISP Firmware.]
  1. Input the Target Address and Port
  2. [Load F/W] open the documents that have the new ISP Firmware
  3. Click the new ISP Firmware and [Open] it
  4. Click [Update Device] to start the firmware update
  5. Till the screen shown [Firmware Update is Complete]

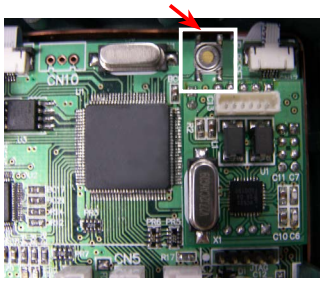
※**More Details**： [Software Manual - UDP UPDATER]

06. Restoring Factory Settings

Reset all device parameters and user card data

- **Reset all device parameters and user card data:**
  Access programming mode → 4 Parameters2 → 9 Factory Reset →**0 : System Param ;**
  1 : User Setting ; 2 : System & User

- **Reset IP Setting:**
  When the device's power is on, press the【RESET】button on the main board untill the ERR (Red) LED of screen lights up. (Refere to the picture beside)



※ After operation as above, you will hear a long reminder sound,and wait until the sound disappears, and then reset the power of the controller. The device will be restored to factory settings.
※ After having done the "Factory Reset," the External Communication Port must be reset. Or the biometric sensor won't be functional.
5 Tools → 5 Ext. Comm Port (0:FP-200 ; 1:Lift ; 2:Vein2000 ; 3:FP-9000 ; 4:Reserved)

07. IP Setting

- **Open your Web Browser and input factory default IP address: http://192.168.1.127**

If the IP address of AR-837-EL has be changed, we must enter the new IP address.

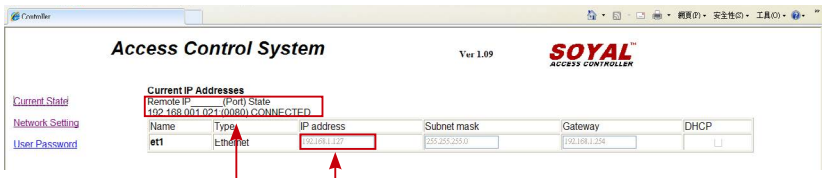


- **Page menu**

Current Status ← Monitor the on-line computer

Network Setting ← IP Setting

User Password ← Change the Log-in information



- **Current State**

Online Status is able to monitor and show which computer is linking on Ethernet Module

Show which computer is linking on Ethernet Module.

Current IP address of the AR-837-EL

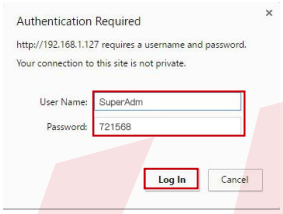
- **Log-in User Password**

When you choose the "Networking Setting" or "User Password" at first. Log-in window will pop out and please input

※ At the Factory Default

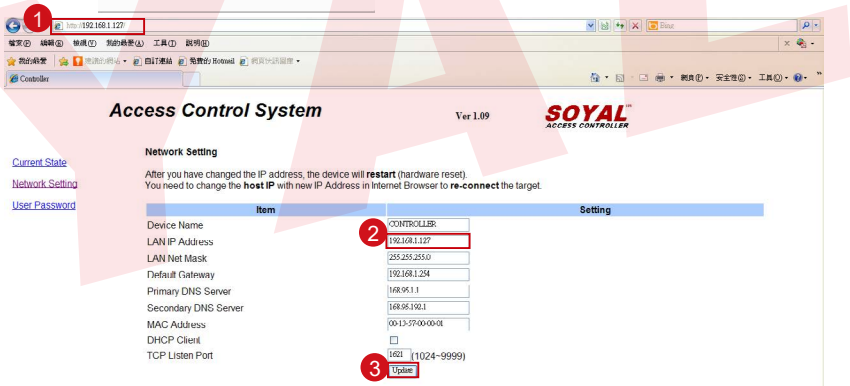
User name: SuperAdm

Password: 721568



- **Networking Setting**

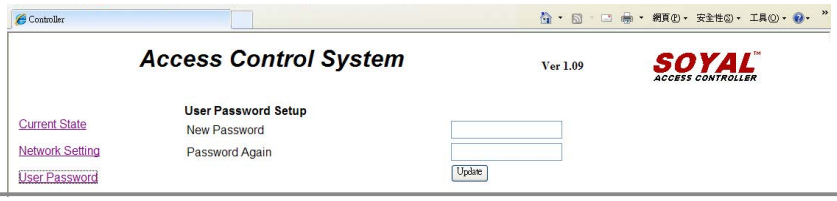
You will find initial IP Address 192.168.1.127 and check MAC Address is identical to the sticker on Ethernet Module device. Please alter the IP address as you want, and then click “Update” button. After updating the IP, please re-connect the Web Browser by the new IP address.



- **User Password**

Change the log-in password to lock the IP setting of Ethernet Module.

The password is composed of 10 characters at most which can be either A~Z or 0~9.



08. Setting Process of Generating / Receiving QR Code

Generate QR Code on 701 Client software

- **Configure Email Server data on “User level Menu”**

Step.1 Click “8 User Cards Edit”

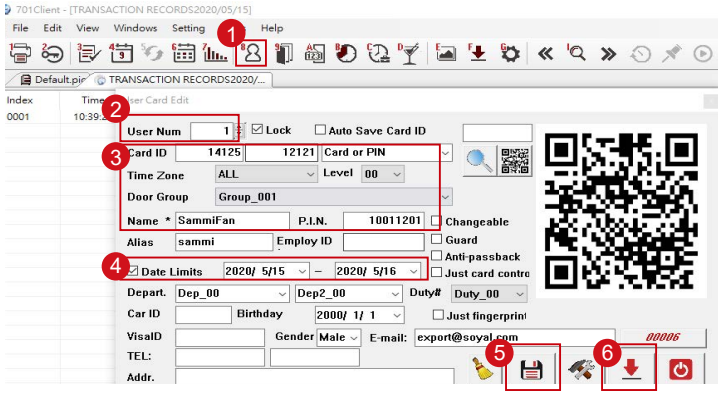
Step.2 Select User Number one,

Step.3 Fill in Card ID ,Select the specific Door Group , Fill in “User Name”

Step.4 Assign the date limits, enter start date, enter expired date

Step.5 Click Save button. The new QR code badge is generated.

Step.6 Click “ download” button to download the user data to Controller.



Receiving QR Code ways

- **Save QR Code Image to the folder**

When clicking the button whether or not you configure Email, QR code image will be saved to the path of C:\Program Files (x86)\701Client\PopGra with the filed name QRCodeXXXX.jpg (XXXX mean User Address)



- **Send out QR Code via Email**

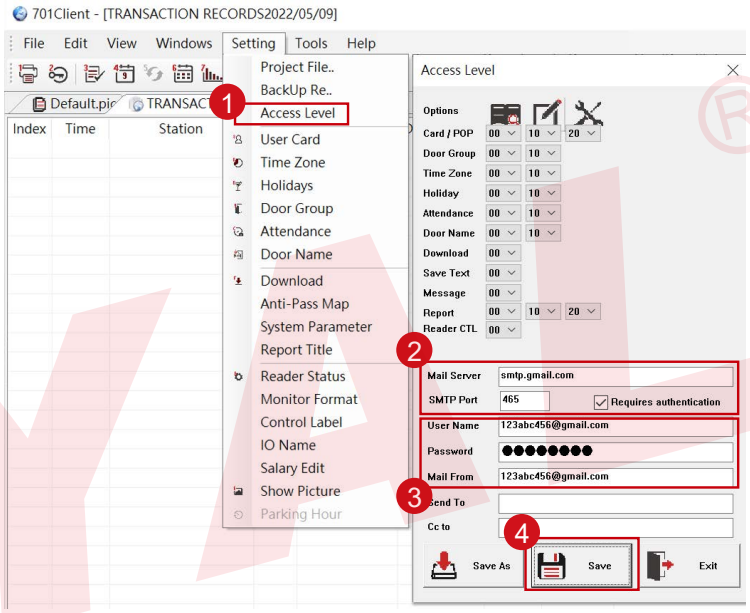
1. Configure Email Server data on "User level Menu"

Step.1 Click " Access Level "
Step.2 Setting Mail Server, SMTP Port

SERVER	SMTP MAIL SERVER
GMAIL	MAIL SERVER: smtp.gmail.com PORT: 465 or 587
YAHOO	MAIL SERVER: smtp.mail.yahoo.com PORT: 465 or 587
Local Provider (Example: ChungHwa Telecom in Taiwan, Server for Business Email is Hibox)	MAIL SERVER: www.hibox.hinet.net PORT: 25

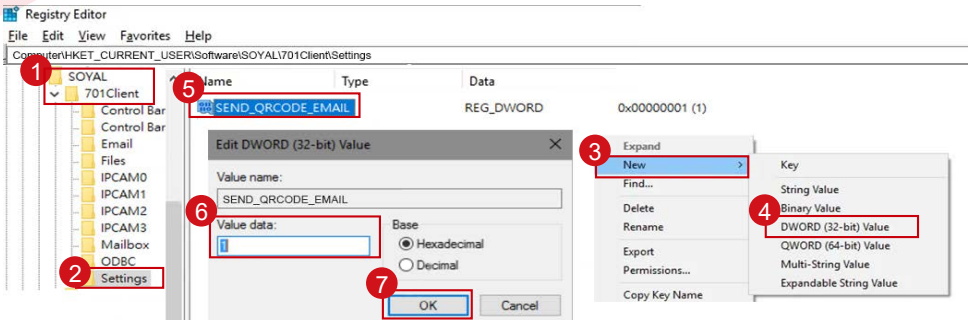
If you use a Gmail or Yahoo account as your email server outgoing email notification, please opt "less secure app access". This setting required to grant access for TaskBot to send emails using Gmail or Yahoo accounts on your behalf.

Step.3 Setting User Name (Email Username), Password (Email Password) ,Mail From (Email Address)
Step.4 Save after sending



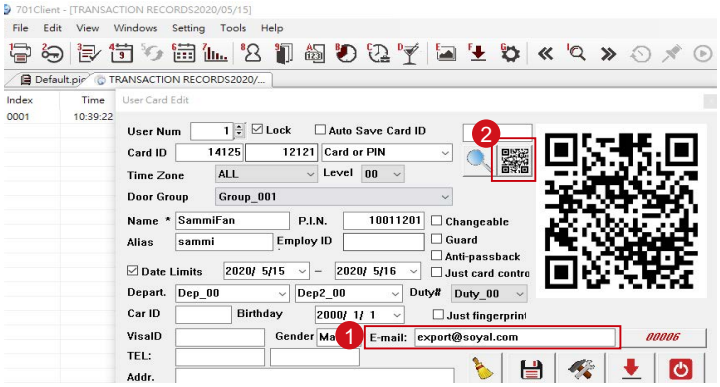
2. Enter to "Registry Editor" to configure Email Value

Add "SEND_QRCODE_EMAIL" under Settings/701Client/SOYAL,and Set its value to 1



3. Fill in the assigned E-mail address; after click the button, QR Code image will be sent to the assigned E-mail address.

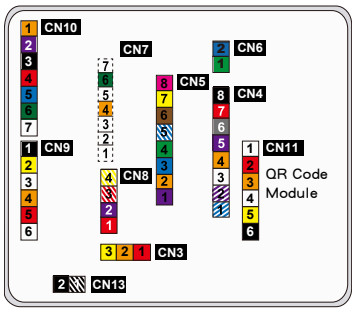
Step.1 Fill the E-mail address that needs to receive the QR Code.
Step.2 Finally Click the QR Code Button,then the QR Code image will be sent to the assigned E-mail address,and also save to the image file under the path of C:\Program Files (x86)\701Client\ PopGra.



09. Notice

1.Tubing: The communication wires and power line should NOT be bound in the same conduit or tubing.
2.Wire selection: Use AWG 22-24 Shielded Twist Pair to avoid star wiring, CAT 5 cable for TCP/IP connection
3.Power supply: Don't equip reader and lock with the same power supply. The power for reader may be unstable when the lock is activating, that may cause a malfunction in the reader.
The standard installation: Door relay and lock use the same power supply, and reader should use another independent power supply.

10. Connector Table



Cable: CN5

Wire Application	Wire	Color	Description
Beeper	1	Pink	Beeper Output 5V/100mA, Low
LED	2	Yellow	Red LED Output 5V/20mA, Max
	3	Brown	Green LED Output 5V/20mA, Max
Door Output	4	Blue White	Transistor Output Max. 12V/100mA (Open Collector Active Low)
Wiegand	5	Thin Green	Wiegand DAT: 0 Input
	6	Thin Blue	Wiegand DAT: 1 Input
WG Door Sensor	7	Orange	Negative Trigger Input
WG Exit Switch	8	Purple	Negative Trigger Input

Cable: CN8

Wire Application	Wire	Color	Description
Reserved	1	Red	--
Security trigger signal	2	Purple	Security trigger signal Output
Arming	3	Red White	Arming Output
Duress	4	Yellow White	Duress Output

Cable: CN13

Wire Application	Wire	Color	Description
Door Bell	1	Black White	Transistor Output Max. DC12VDC/100mA (Open Collector Active Low)
	2	Black	DC 0V

Cable: CN3

Wire Application	Wire	Color	Description
Anti-Tamper Switch	1	Red	N.C.
	2	Orange	COM
	3	Yellow	N.O.

Cable: CN6

Wire Application	Wire	Color	Description
RS-485 for Lift Controller	1	Thick Green	RS-485(B-)
	2	Thick Blue	RS-485(A+)

Cable: CN4

Wire Application	Wire	Color	Description
Lock Relay	1	Blue White	(N.O.)DC24V1Amp
	2	Purple White	(N.C.)DC24V1Amp
Lock Relay COM	3	White	(COM)DC24V1Amp
Door Sensor	4	Orange	Negative Trigger Input
Exit Switch	5	Purple	Negative Trigger Input
Alarm Relay	6	Gray	N.O./N.C. Optional (by jumper)
Power	7	Thick Red	DC 12V
	8	Thick Black	DC 0V

Cable: CN9

Wire Application	Wire	Color	Description
UART Port for extension module and functions. support TTL to RS485 function with AR-321L485-5V for voice module(*Required speaker 8Ω / 1.5W (Max. 2W), lift control module, swipe card automatically printed data on line printer, LED board, bluetooth module, etc	1	Black	DC 0V
	2	Yellow	TX
	3	White	TE
	4	Orange	RX
	5	Red	DC 5V
	6	Blue	--

Optional

Cable: CN7

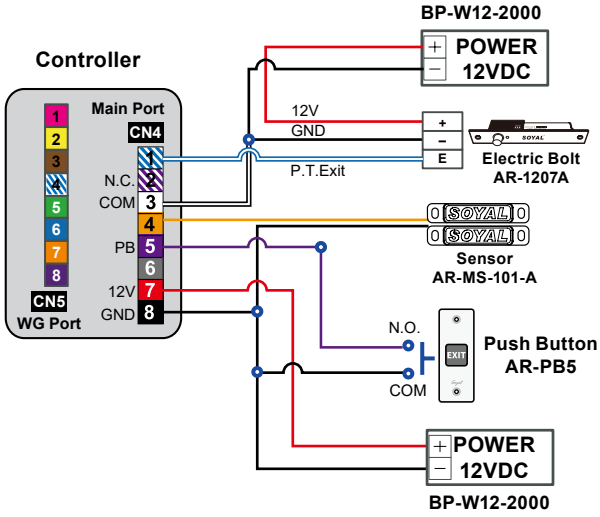
Wire Application	Wire	Color	Description
	1	---	---
	2	---	---
TCP/IP Output	3	Orange White	Net - TX+
	4	Orange	Net - TX-
	5	Green White	Net - RX+
	6	Germ	Net - RX-
	7	---	---

Cable: CN10

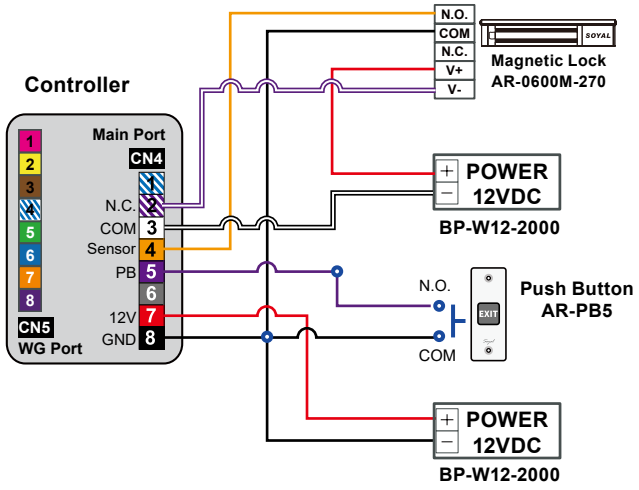
Wire Application	Wire	Color	Description
Blutooth Module, RFID Module, etc	1	Orange	ANT 1
	2	Purple	ANT 2
	3	Black	DC 0V
	4	Red	DC 5V
	5	Blue	Wiegand DAT: 1 Input
	6	Green	Wiegand DAT: 0 Input
	7	White	--

11. Wiring Diagram

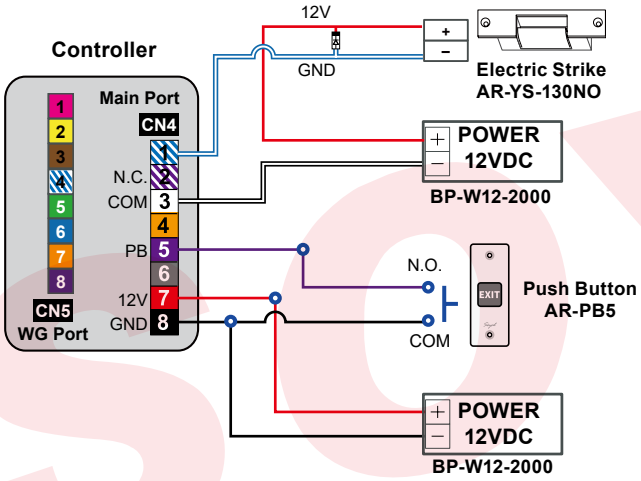
Connect to Electric Bolt



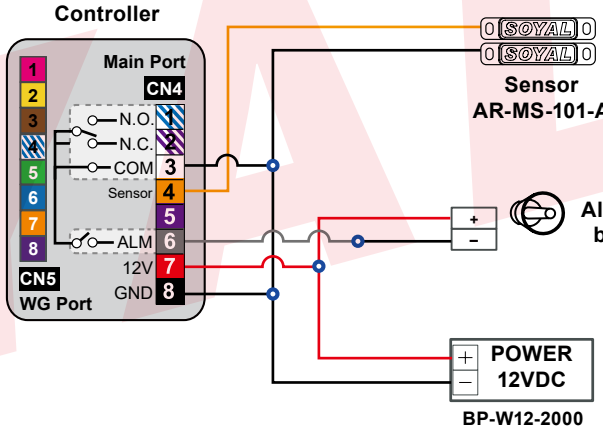
Connect to Magnetic Lock



Connect to Electric Strike

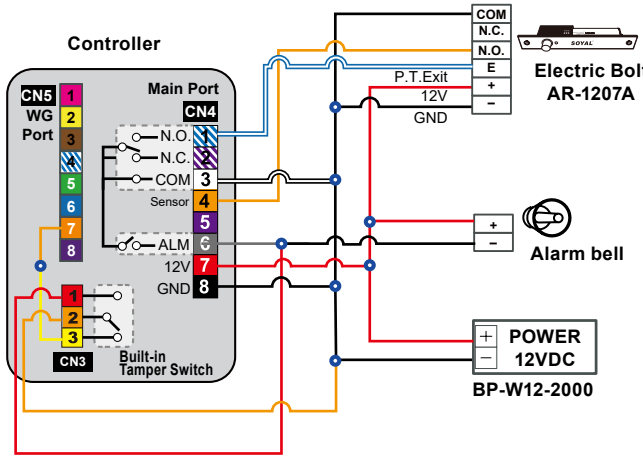


Door Open Too Long Alarm Wiring Method (External Sensor)



Tamper-Switch Alarm Wiring Method

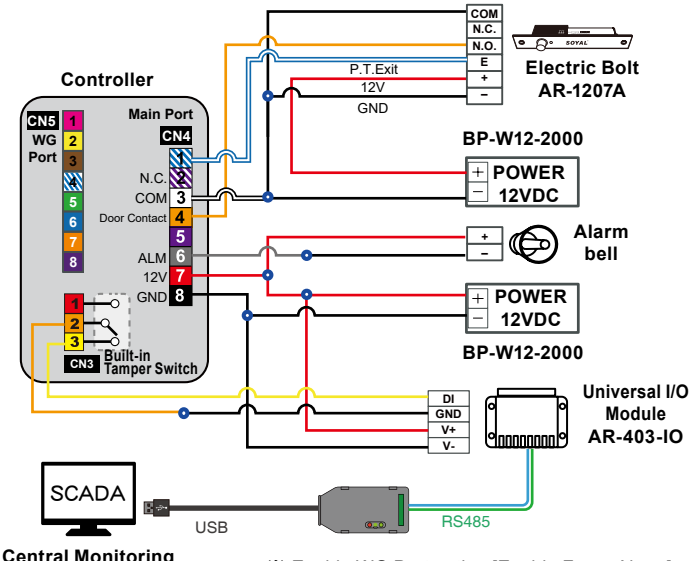
(Simplified Peace of Mind Type-WG Port Sensor Wiring Method)



※ Enable [Share Door Relay] & WG Port option [Enable Force Alarm] via Parameter Setting of 701Server Software

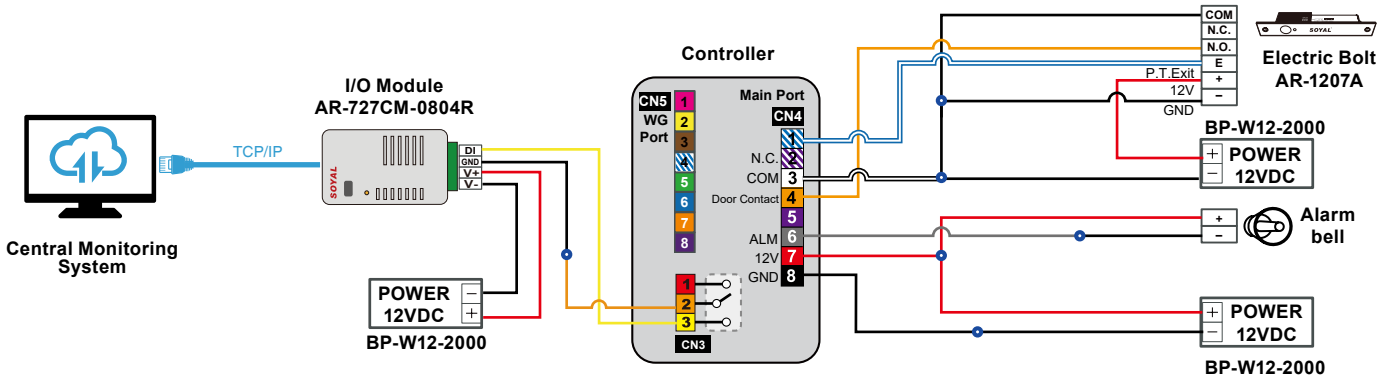
Tamper-Switch Alarm Wiring Method

(Centralized Monitoring Type with Assurance(RS485)-Connect to Central Monitoring System through Modbus via Universal I/O Module)

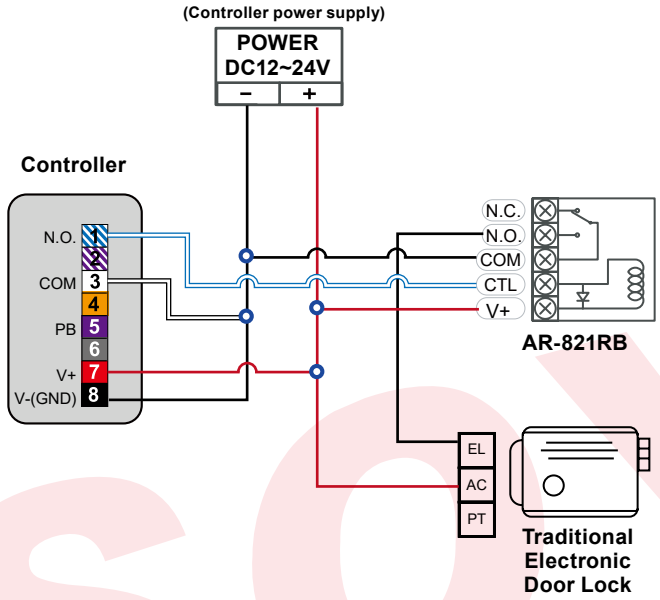


※ Enable WG Port option [Enable Force Alarm] via Parameter Setting of 701Server Software

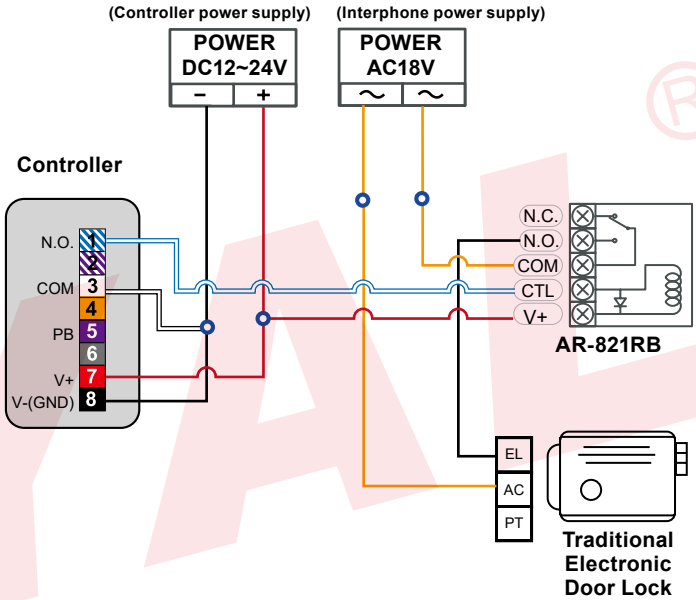
Tamper-Switch Alarm Wiring Method (Cloud Monitoring Active Reporting Type-TCP)



Traditional Electronic Door Lock wiring diagram adopted with controller power supply

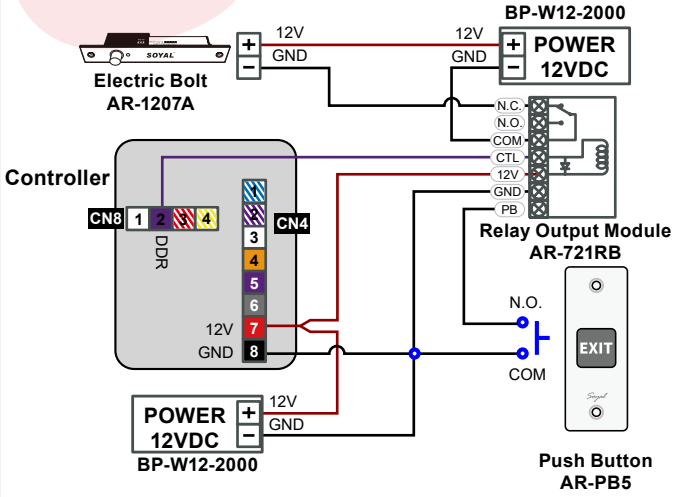


Traditional Electronic Door Lock wiring diagram adopted with interphone power supply

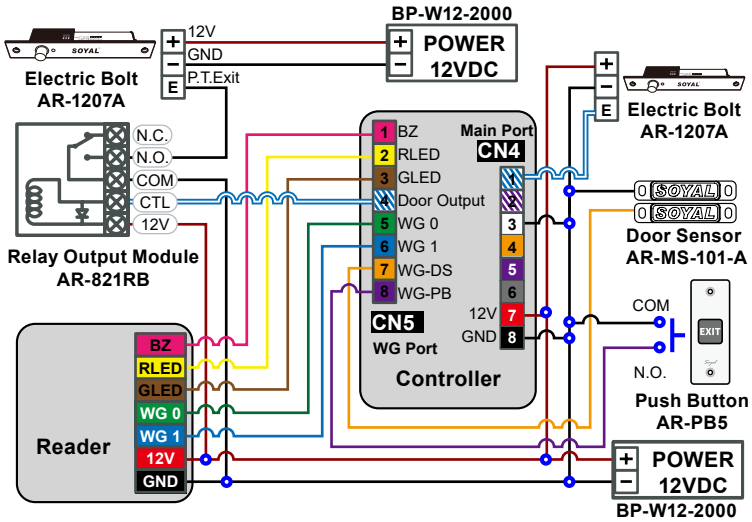


※ This wiring diagram function is required to setup Door Relay Time in 1 sec, please refer to 02 * TTT # command.

Strengthen security with AR-721RB



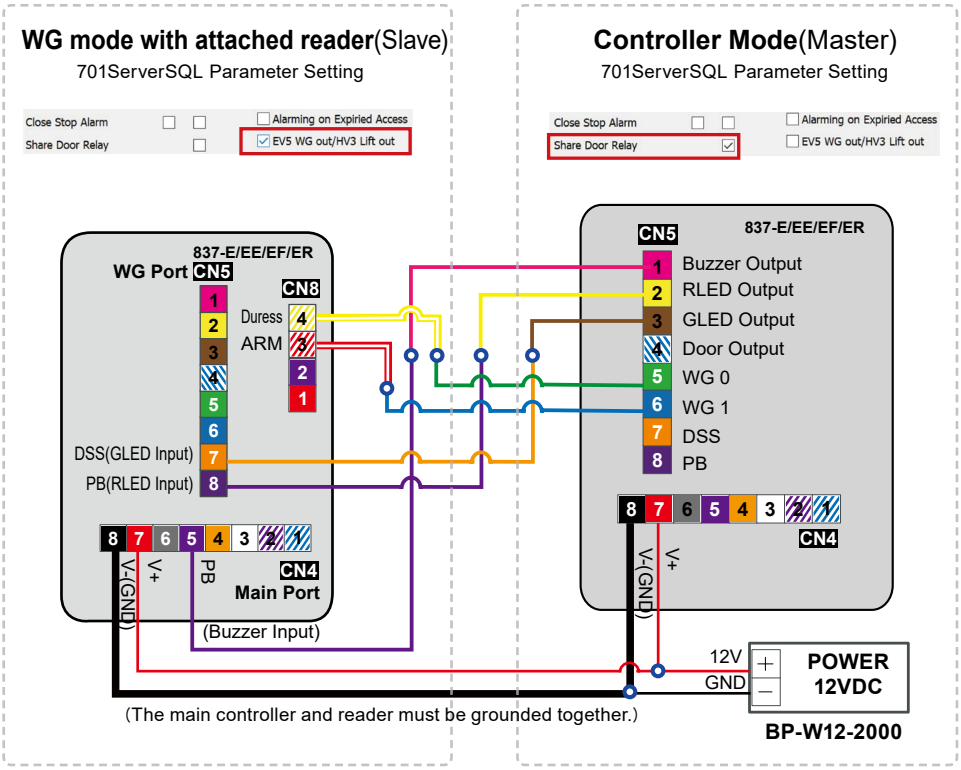
Connect to Reader



Enable "Share Door Relay" to open the same electronic lock regardless of whether it is triggered by the main controller or the Wiegand reader. This is achieved by using the NO contact of the blue-white wire in CN4, suitable for systems where the controller and the reader control the same lock.

Disable "Share Door Relay" for card swiping on the main controller, triggering the NO contact of the blue-white wire in CN4. For card swiping on the Wiegand reader, triggering the NO contact of the blue-white wire Door Output in CN5 WG Port. This allows the main controller and the reader to independently control two electronic locks.

WG Mode / Controller Mode Setting Method

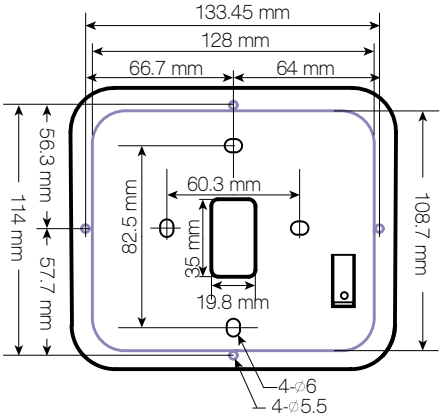


1. AR-837-EL can be set up as WG26/WG34/ WG64 while the Controller is in WG Mode. These Controller can also be paired with the Controller that has WG input function.
2. Networking Setting: Select E Series Controller Parameter Edit in 701Server,tick up the function “Ev5 WG out/Hv3 Lift out”
3. Please restart the controller after pressing “Write to Controller”.

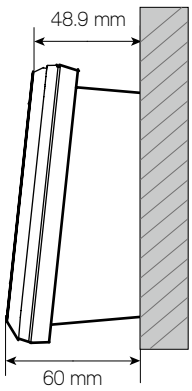
※Please refer to the FAQ for software configuration instructions: How to set the E Series card reader to Wiegand output mode?

※FAQ : How to setup biometric controller of AR-837EF/AR-837EA as weigand reader and enable Anti-Pass back function?

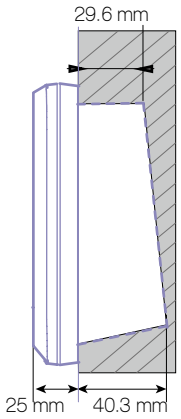
12. INSTALLATION



- Surface mounting hole
- Flush mounting hole



- Surface mounting



- Flush mounting

13. Installation

A-1.Surface Mounted

A-2.Embedded

B.



- A-1.Surface Mounted: Use a screwdriver to screw the mounting plate to the wall. A-2.Embedded: To dig a hole for AR-837-EL:128mmx109mm; and then, use a screwdriver to screw the mounting plate to the wall.
- Pull cable ends through the access hole in the mounting plate.
- Attach AR-837-EL to the mounting plate and install screws (supplied) into the holes at the bottom with the allen key.
- Apply power. LED (green) will light up with one beep.

14. Specification

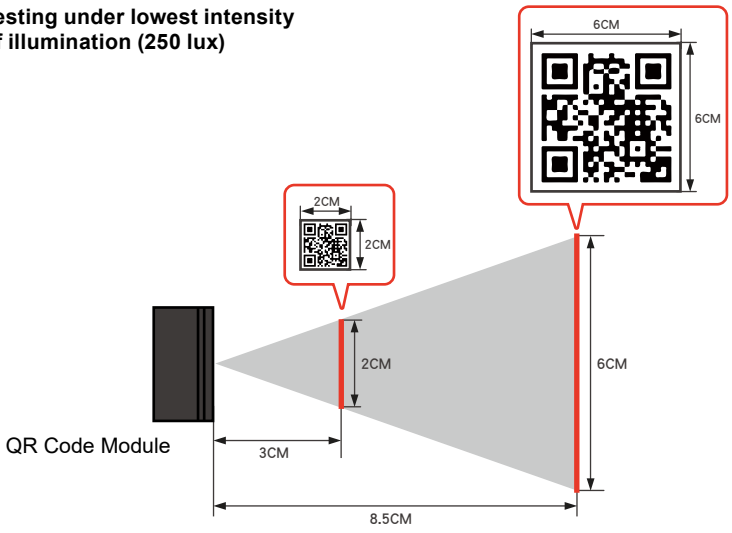
QRCode supported format:
(The standard firmware supports QR Code format as below and other QR Code format can be supported by customized firmware.)

- QRCo08A12345678
- QRCo10A1234567890
- QRCo14A12345678901234
- QRCo55W1234556789
- QRCo08H33CDAB88
- QRCo16H001122334455667788

Type of Bar Code	Density	Min. distance	Max. distance
Code 39	0.125 mm (5 mils)	4.0 cm	9.0 cm
	0.375 mm (15 mils)	4.0 cm	25.0 cm
UPC/EAN	0.375 mm (15 mils)	4.0 cm	25.0 cm
Code93	0.254 mm (10 mils)	4.0 cm	21.0 cm

15. QR Code Scan Area

Testing under lowest intensity of illumination (250 lux)

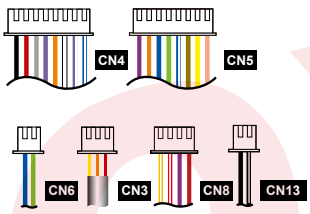


16. Contents

1 Products



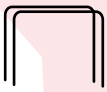
2 Terminal Cables



3 Tools



Screws



Water proof Strip X2

4 Optional

- Ethernet : DMOD-NETMA10 (TCP/IP Module included RJ45 Connector) or DMOD-NETMA11 (TCP/IP Module with POE function)
- Any Wiegand Output Module (CN10) (Voice Module)
- AR-321L485-5V (TTL to RS-485 Converter)
- AR-MDL-721V