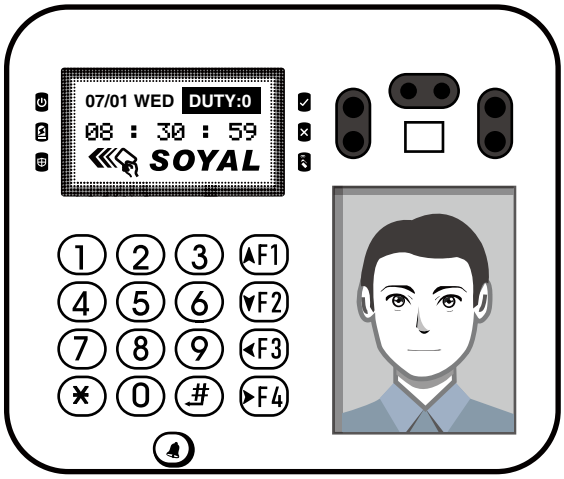
Graphic Display Multi-Function Proximity Controller



AR-837-EA

1. Product Features

Graphic Display Multi-Function Proximity Controller

- Dual cameras live dynamic face expression detection
- Support face registration and face recognition under standalone mode
- Access denied when using pictures, videos
- Supports dynamic graphic control and timely jump to emergency events.
- Support for elevator scheduling control.

2. Application

- **Access Control & Attendance Application**

► Live Dynamic Face Recognition & License Plate Recognition via IP Camera & Seamiess Event Image Capature Integration

► On-Site Crowd Control Management / Multi-entry and multi-exit facial recognition system-Application Tutorial

3.How to Order

AR-837	EA	X	R	1	1	1	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
EA = E Series Access Controller

RTC
R = Built-in RTC

Waterproof
1 = Weatherproof

Language(LCD)
1 = English/Chinese

Table of Contents

01. Function Description of Front Panel & Indicator 01
02. Manu Tree 01
03.Full Function Command Menu Table 02
04. Programming 05
05. Parameter Setting Menu 08
06. Face Enrollment Tips 09
07. Notes and Tips for Registration and Recognition of Wearing Face Mask Detection Mode 10
08. Notice 11
09. Connector Table (1) 11
10. Connector Table (2): Optional 11
11. Wiring Diagram 12
12. Installation 14
- Installation Method 14
- Dimension (mm) 14
- Installation Guide 14

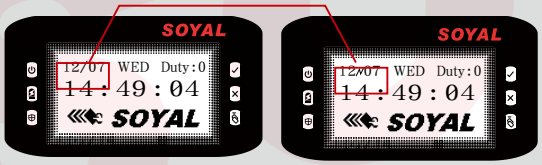
13. Contents 14

1. Function Description of Front Panel & Indicator



Attendance/Duty Functions		
	Press"1 time"	Press"2 times"
F1 Up	**Duty on**	**Break out**
F2 Down	**Duty off**	**Break RTN**
F3 Left	**Overtime on**	**Go**
F4 Right	**Overtime off**	**Return**
* Esc / Quit	# Enter / OK	

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)

2. 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 Face
7. Delete Face

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

3. Full Function Command Menu Table

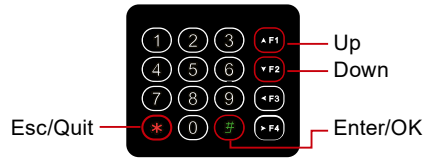
- **Entering**

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

2-2-3
Finger / Face
0: Must 1: Ignore
000000=0

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

2-6. Enroll Face

2-6-1
User Address:
F3: Prev F4: Next
Range: (0-002998)

2-6-2
Closer: Rotating
Center Image Pls

2-7. Delete Face

2-7-1
User Address:
F3: Prev F4: Next
Range: (0-099999)
000000

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

4-3-14 (837EF)
Main Controller
Free Tag Always
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: FP-Type 1: Lift
2: Vein2000 3:
FP9000 4:……..
2

(Note: This step requires selecting **0: FP-Type**)

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

4. 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

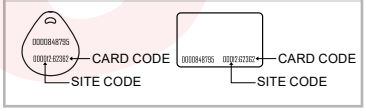
- **Language Setting**
  Access programming mode → 5 Tools → 1 Language → 0 EN → Succeeded → Initial system...

- **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 Enroll Face → **Input 5-digit user address** → **Input 4-digit PIN (0001~9999)** → Succeeded
Or via 701Client set it on Users screen

F. Enroll/Delete Face

- **Adding**
  Access programming mode → 2 User Setting → 6 Delete Face → Key in 5-digit user address →Follow the instruction on LCD Screen to enroll face →Succeeded
- **Deleting**
  Access programming mode → 2 User Setting → 7 Delete FP → Key in 5-digit user address → Succeeded
  P.S. If want to delete all users' face data' FP, key in **99999** #

G. Access Mode

※ Control mode can be set on hardware or software.

Hardware settings:
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**
(**837EA**: → Finger Identify: 0: Must ; 1: Ignore)→ Succeeded

※ If you select the access mode with PIN, please ensure the parameters in 4 Parameters【2】 → 3 Miscellaneous → Main Controller Skip PIN Check, select 0 to disable WG1 Port Skip PIN Check, select 0 to disable; It will mistake Controller and cannot get access if you select different access mode in 2 Access mode and 3 Miscellaneous

Software settings:
Enter 701ClientSQL → User Card edit → Set Access Mode
For detailed settings, please refer to the 701ClientSQL manual
Chapter 2-6 User Card Edit

Access Mode		Finger Identify (837EF/EA Only)		Result (837EF/EA Only)
Hardware	701Client	Hardware	701Client	
0:Invalid	Invalid / Card only / Card or PIN / Card and PIN	0: Must	☐ Just card ☐ Just Face / FP	Invalid User
		1: Ignore	☑ Just card ☑ Just Face / FP	
1:Card	Invalid / Card only / Card or PIN / Card and PIN	0: Must	☐ Just card ☐ Just Face / FP	Face+Card
		0: Must	☐ Just card ☐ Just Face / FP	Card first, then Faceprint. Special firmware version (For requirements, contact SOYAL). APS837EF___V0405_230512 先卡片再按指紋.STM
		1: Ignore	☑ Just card ☑ Just Face / FP	1. Card Only 2. Face Only
2:Card or PIN	Invalid / Card only / Card or PIN / Card and PIN	0: Must	☐ Just card ☐ Just Face / FP	1. Face+Card 2. Face+PIN 3. Card+Face+PIN 4. Card+Face+Card 5. PIN+Face+PIN 6. PIN+Face+Card
		0: Must	☐ Just card ☐ Just Face / FP	Card first, then Faceprint. Special firmware version (For requirements, contact SOYAL) APS837EF___V0405_230512 先卡片再按指紋.STM
		1: Ignore	☑ Just card ☑ Just Face / FP	1. Card Only 2. PIN Only 3. Face Only
3:Card and PIN	Invalid / Card only / Card or PIN / Card and PIN	0: Must	☐ Just card ☐ Just Face / FP	Face+Card+PIN
		1: Ignore	☑ Just card ☑ Just Face / FP	1. Card+PIN 2. Face+PIN

H. 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-837-EA screen

I. 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

J. 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)

K. 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-837-EA 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.

L. 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

M. Setting up the alarm / arming

- **Conditions:**
  1. Arming enabled
  2.Alarm system connected
- **Situations:**
  1. **Door is open overtime**: 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 is abnormal**: Happening when power is off and then on again, besides, reader was on arming before power went off.

- **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].**

N. Anti-pass-back

While connecting with AR-723-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]

O. Lift control

[e.g.] Connect with **AR-401-IO-0016R** 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 AR-321L485-5V**)**

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

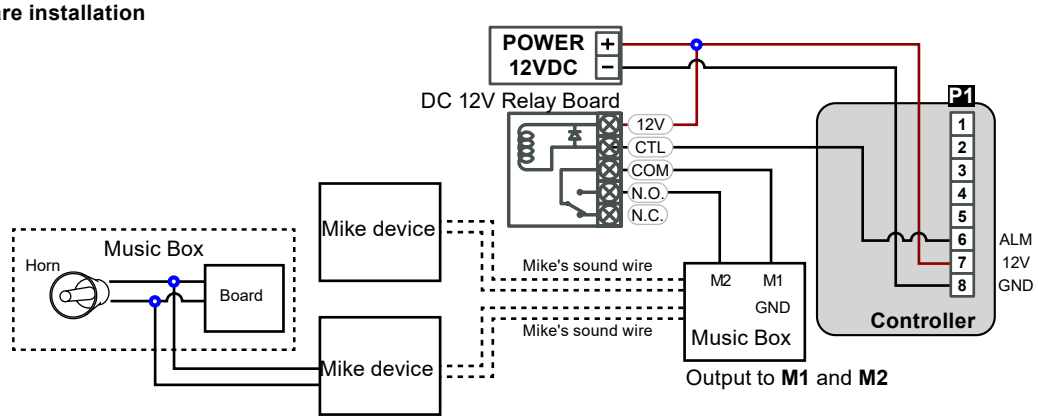
  [e.g.] Set NO. 114, can use it through the 8 F and 16F:

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

P. 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

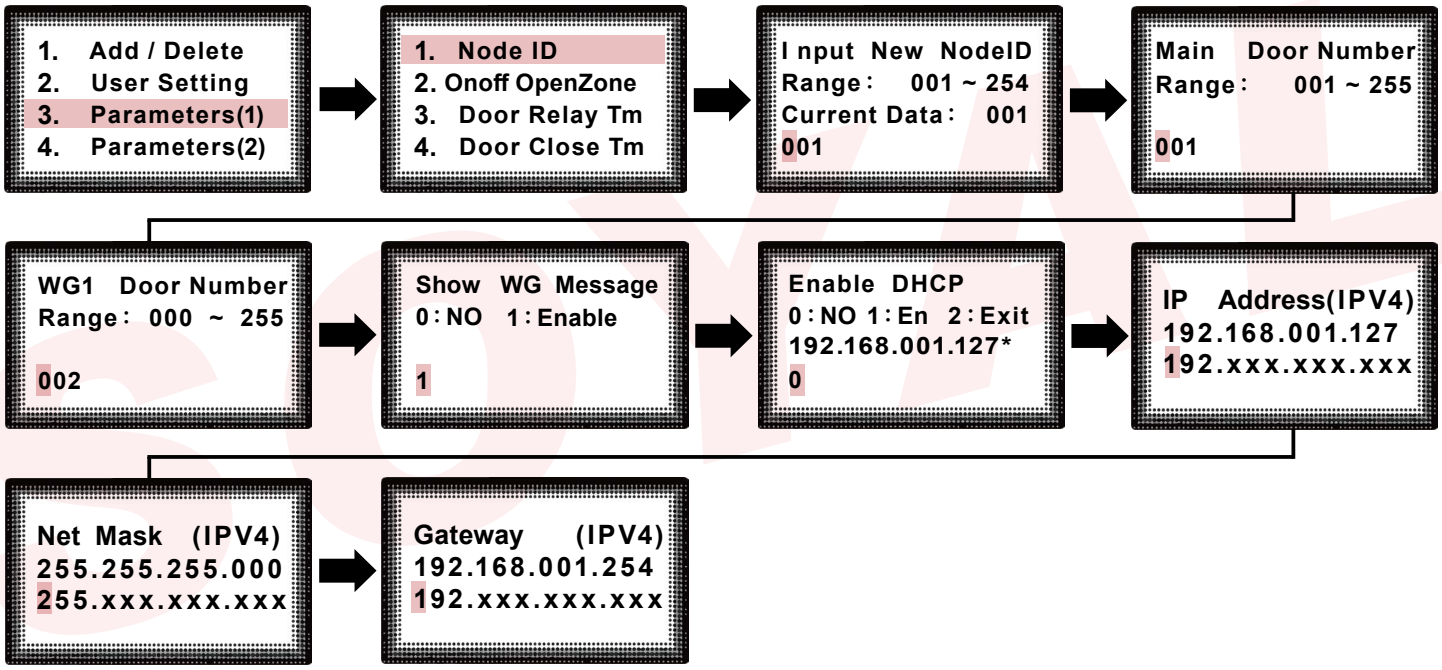
R. Open TimeZone

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

5. Parameter Setting Menu

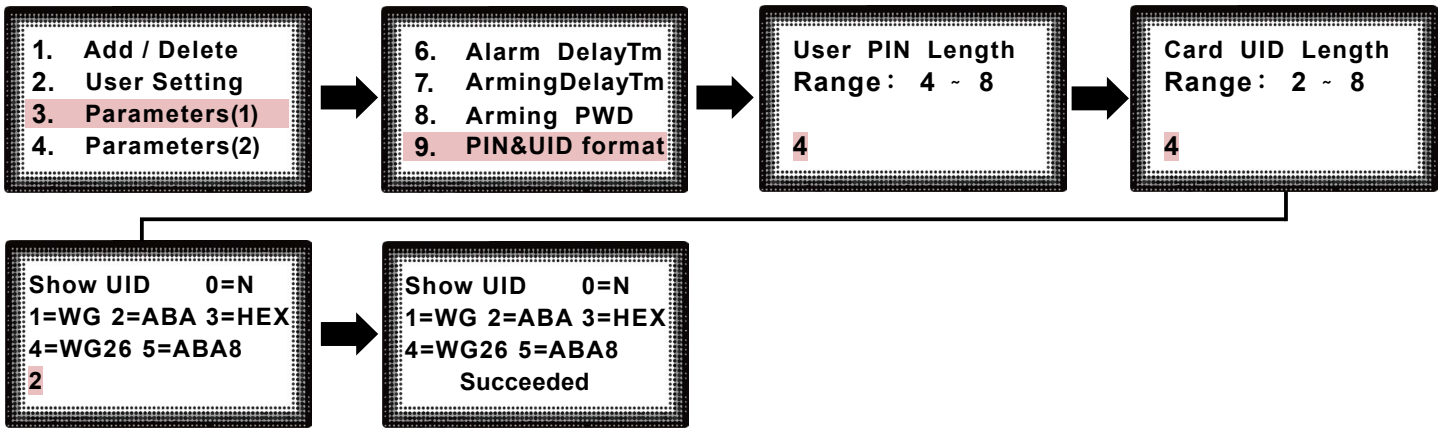
IP Address Config

Access programming mode → 3 Parameters[1] → 1 Node ID → Enter New Node ID → Main Door Number Range → WG1 Door Number Range → Show WG Message → Enable DHCP → please enter IP Address(IPV4) → please enter Net Mask(IPV4) → please enter Gatewa(IPV4) → Succeeded



Set card display mode

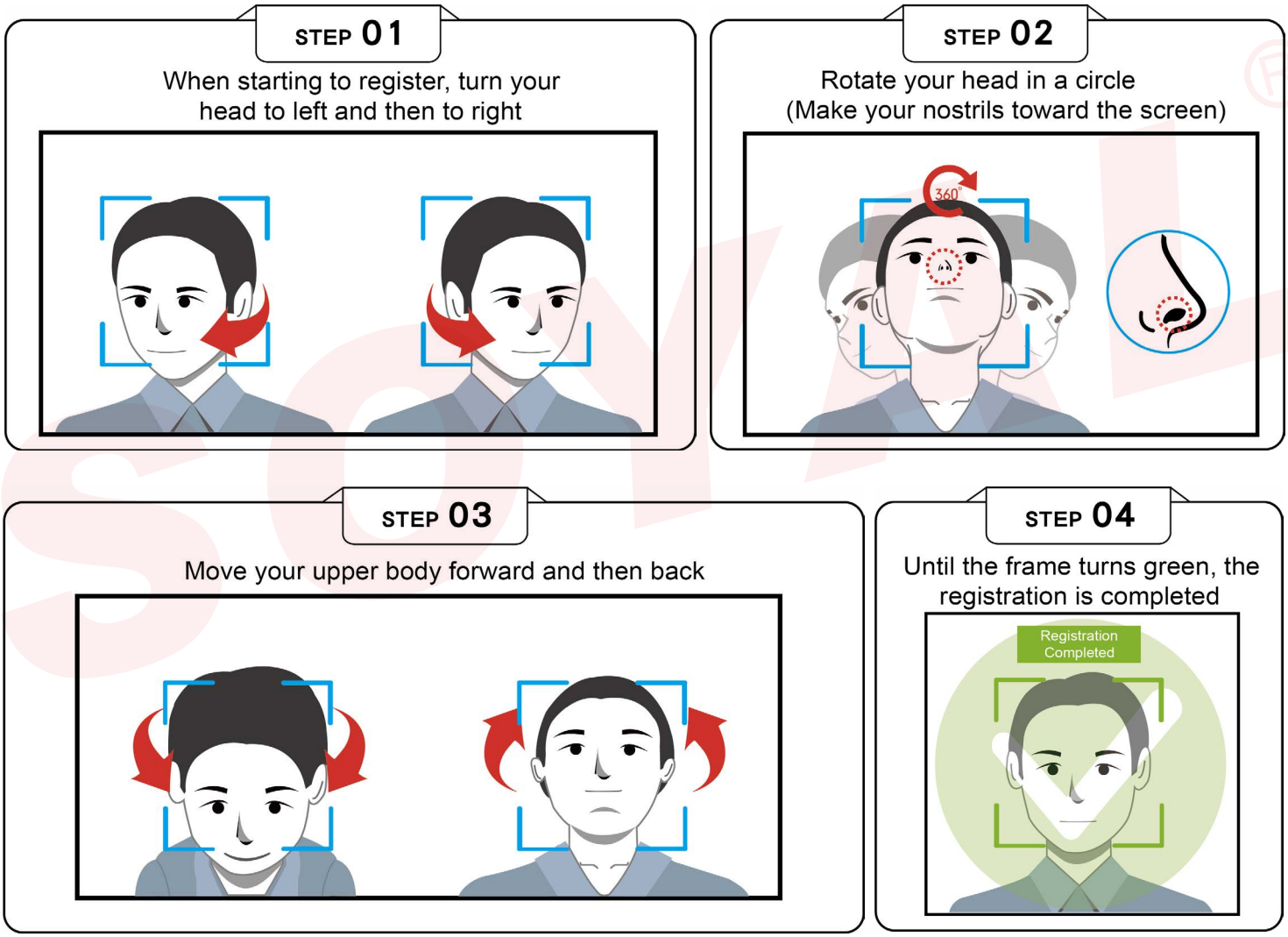
Access programming mode → 3 Parameters[1] → 9 PIN&UID format → User PIN Length → Card UID Length → Show UID → Succeeded



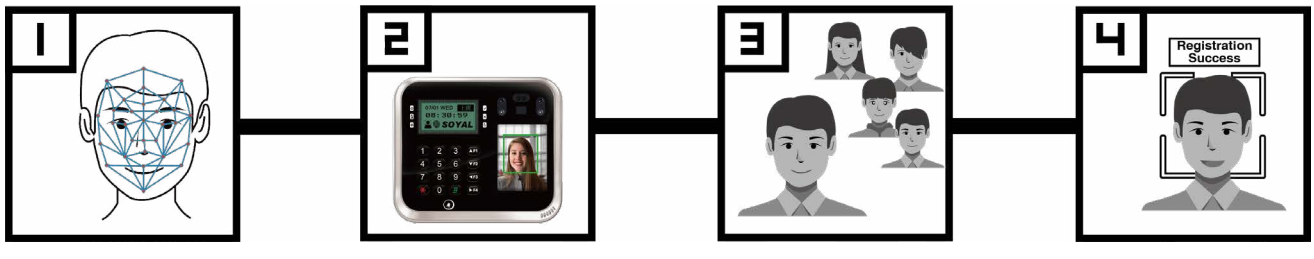
6. Face Enrollment Tips

- **When registering for facial recognition, it is recommended to place the face close to the camera and try to fill the frame as much as possible by moving the face forward. This can increase the chances of a successful registration.**
- **After registering a face, if it is similar to other facial features, especially for twins, the following solutions should be considered:**

1.Re-register under sufficient lighting conditions.
2.Exchange registration order with each other.
3.Repeat registration and capture feature points until successful registration



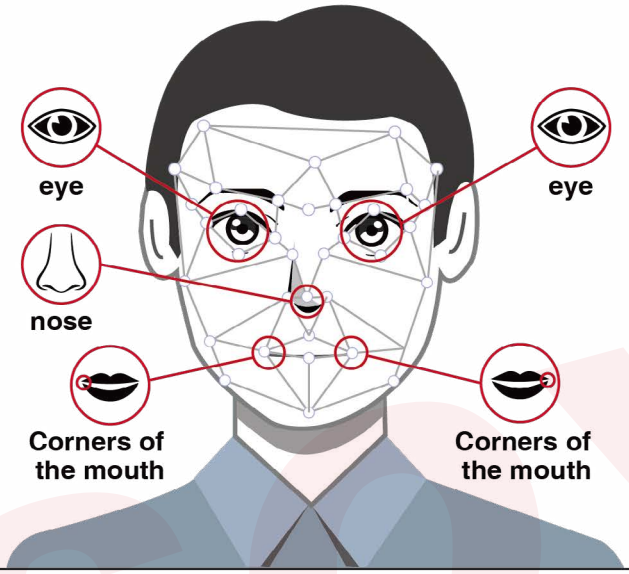
- Face Enrollment Procedure



7. Notes and Tips for Registration and Recognition of Wearing Face Mask Detection Mode

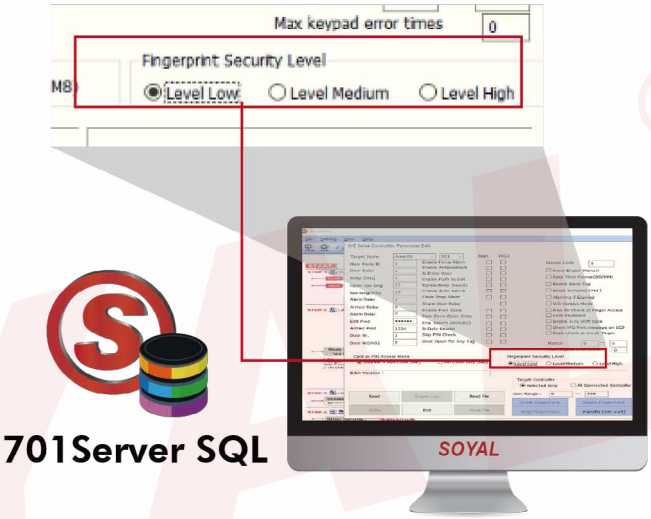
(一) When registering a face data, the face mask could not be wearing.

Collecting facial features



(二) Setting the security level of the face controller to [Level Low] will enable the face mask detection mode

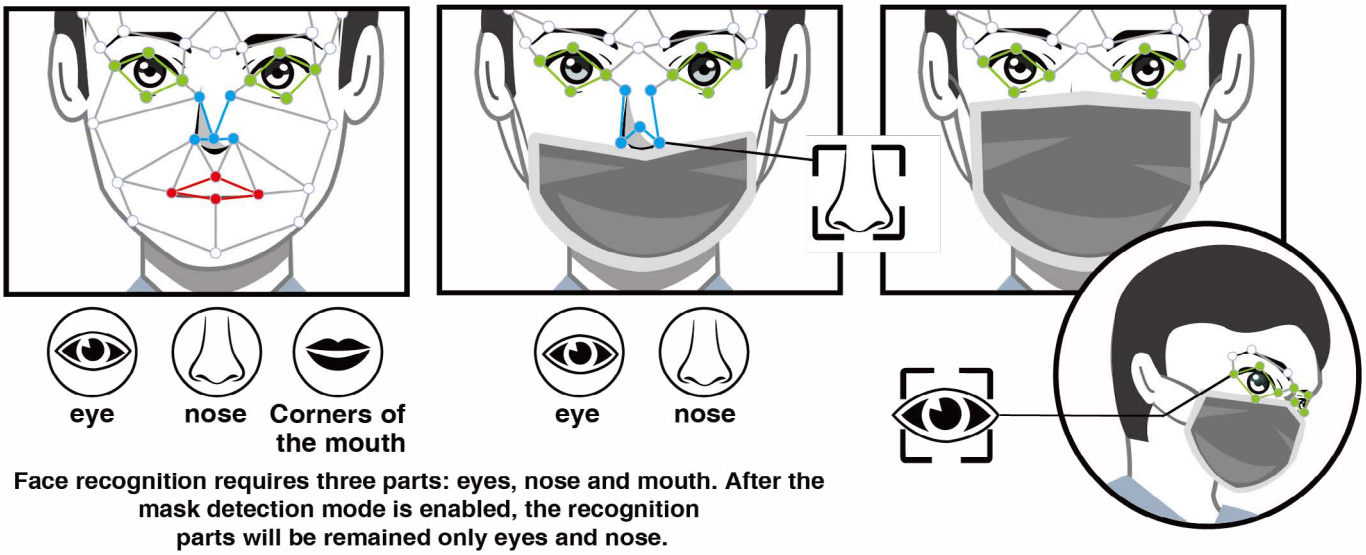
(The level can be set in the controller parameter setting window of 701Server Software)



(三) Emphasizing 3D model recognition and trying to collect more images around the eyes when registering a face data.

Without Wearing Face Mask

Exposing the nose bridge as possible can largely increase the successful recognition rate and speed.



Face recognition requires three parts: eyes, nose and mouth. After the mask detection mode is enabled, the recognition parts will be remained only eyes and nose.

If the nose is completely wrapped when recognizing the face, please try to make the front and side of the eyes clearer when registering the face.

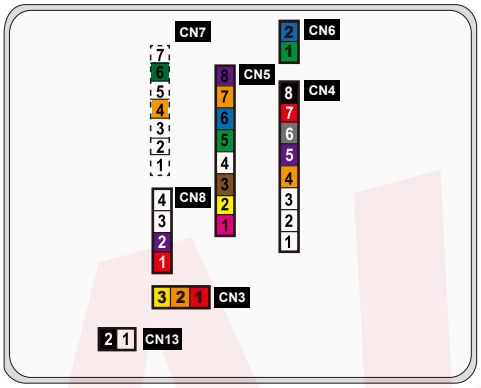
8. Notice

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.

9. Connector Table (1)



Cable: CN3

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

Cable: CN4 Main Port

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: CN6

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

Cable: CN5 WG Port

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

10. Connector Table (2): 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: CN9

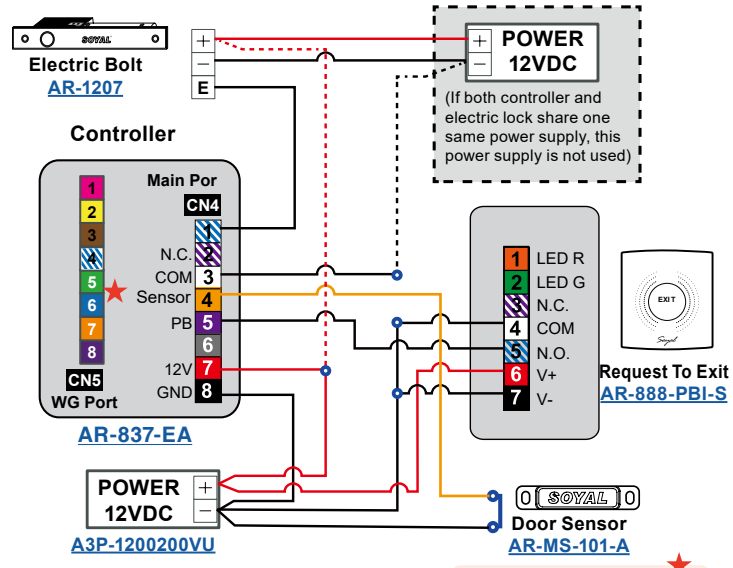
Wire Application	Wire	Color	Description
Voice Module (*Required speaker 8Ω / 1.5W (Max. 2W)	1	Black	DC 0V
	2	Yellow	TX
	3	White	TE
	4	Orange	RX
	5	Red	DC 5V
	6	Blue	--

Cable: CN10

Wire Application	Wire	Color	Description
HID RF Module	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

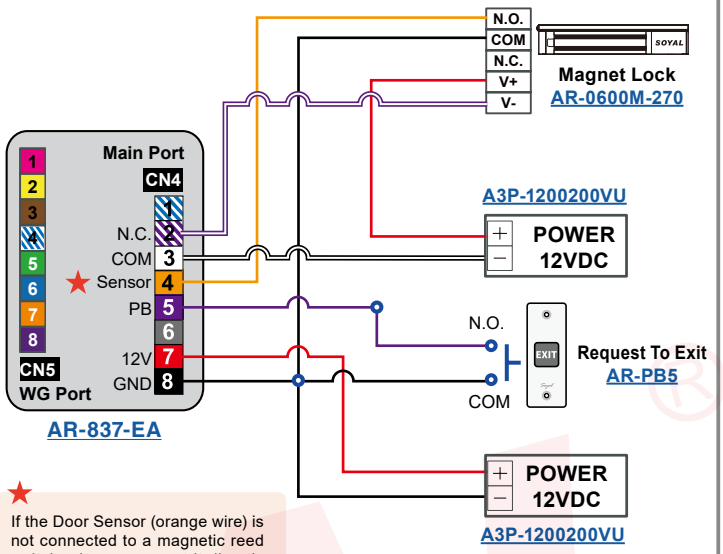
Connect to Electric Bolt



※ The above wiring diagram is used for two power supply configuration. If the controller and the electric lock share one same power supply, please connect the V+ & V- of the electric lock to the V+ and V- of the power supply of the controller.

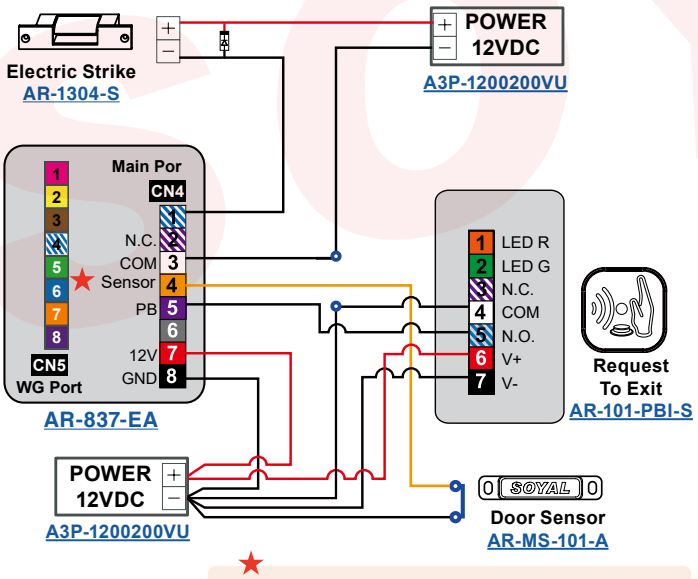
★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

Connect to Magnetic Lock



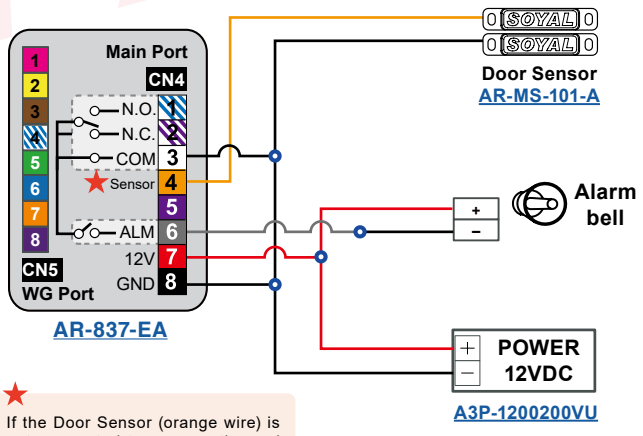
★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

Connect to Electric Strike



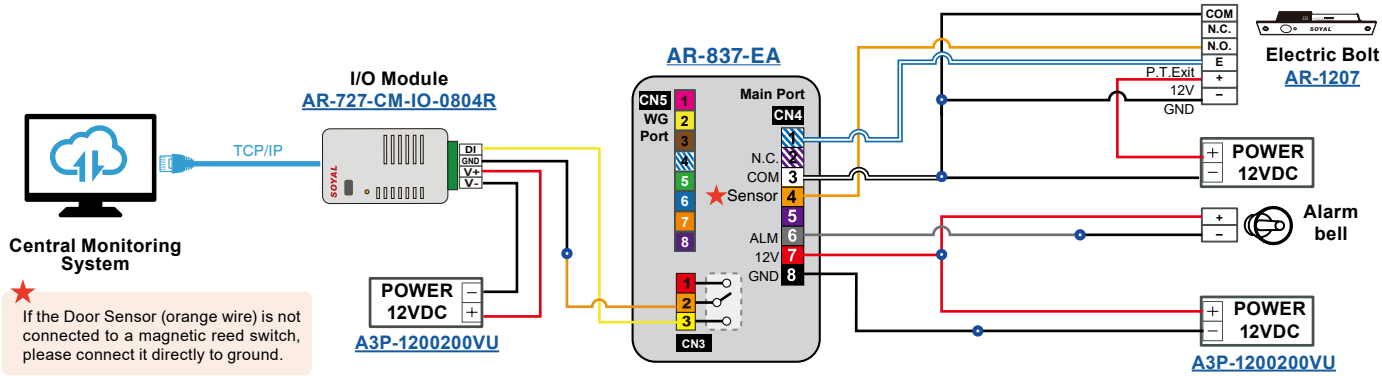
★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

Door Open Too Long Alarm Wiring Method (External Sensor)



★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

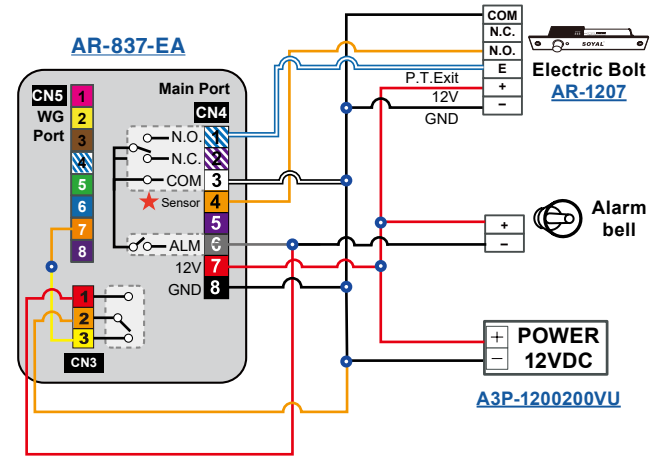
Tamper-Switch Alarm Wiring Method (Cloud Monitoring Active Reporting Type-TCP)



★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

Tamper-Switch Alarm Wiring Method

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

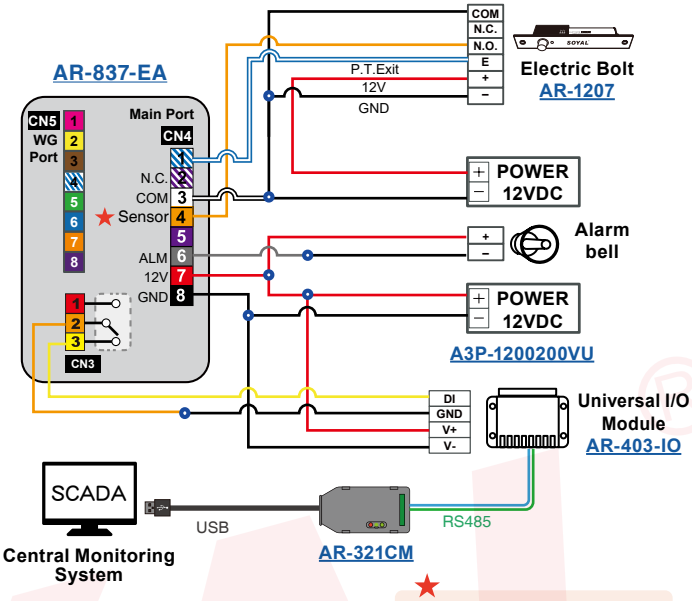


※ Enable [Share Door Relay] & WG Port option [Enable Force Alarm] via Parameter Setting of 701Server Software

★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

Tamper-Switch Alarm Wiring Method

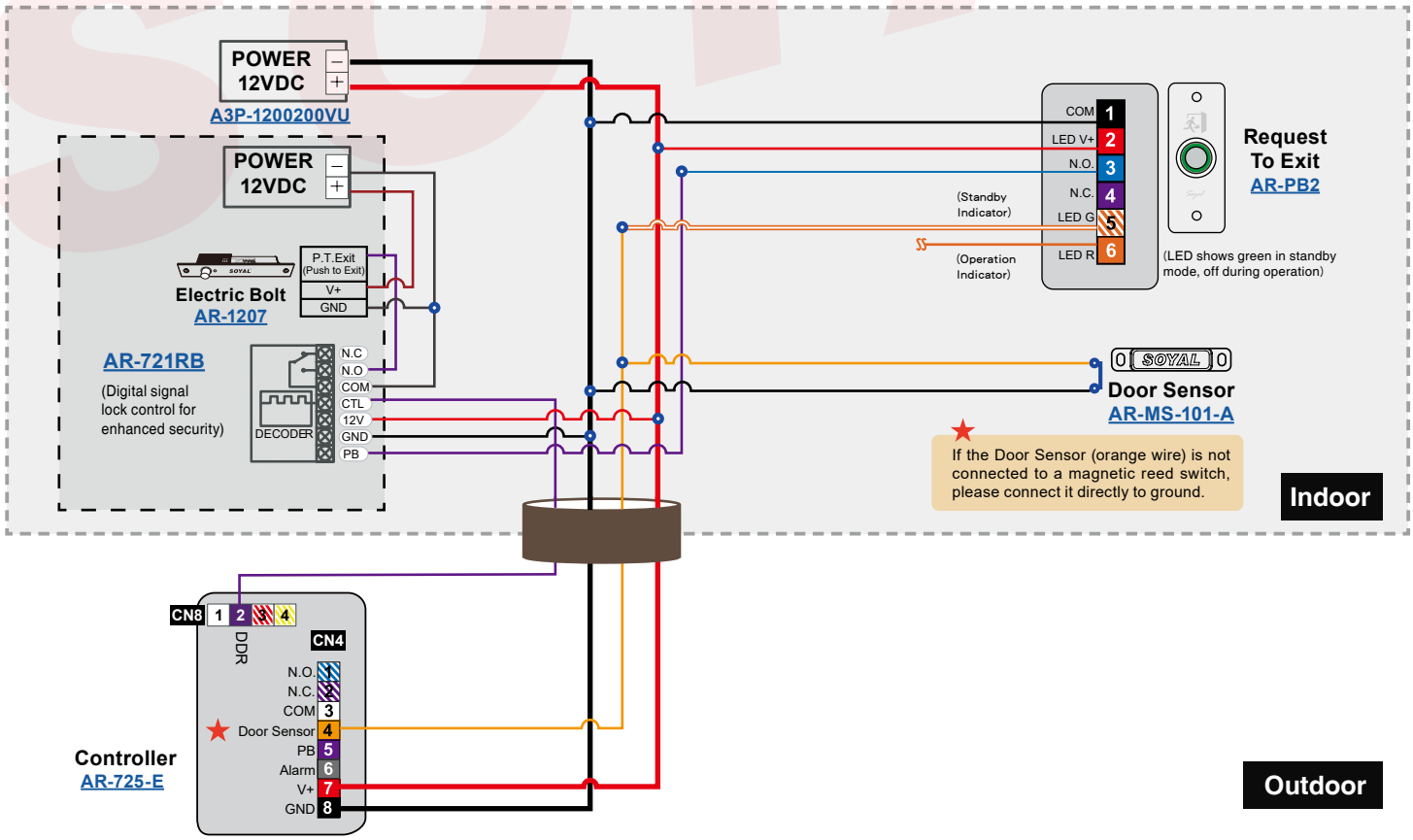
(Centralized Monitoring Type with Assurance(RS485)-Connect to Central Monitoring System through Modbus via Universal I/O Module)



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

★ If the Door Sensor (orange wire) is not connected to a magnetic reed switch, please connect it directly to ground.

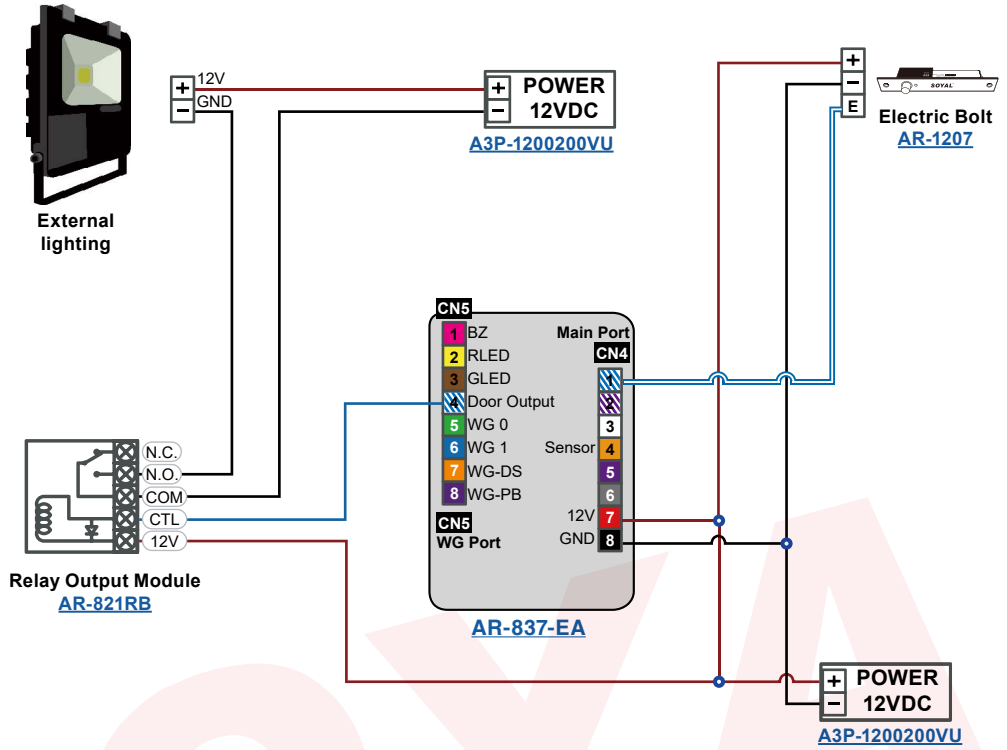
Uses digital signal to release the electric lock for enhanced safety. [AR-721RB requires direct connection to the electric lock.]



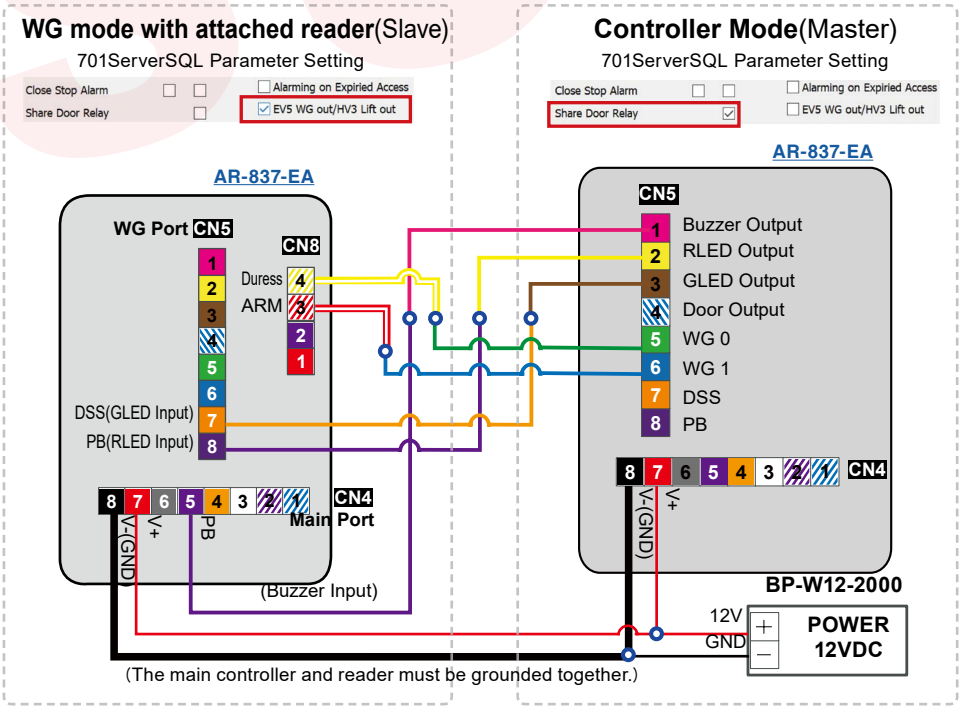
Enable "Share Door Relay" to open the same electronic lock regardless of whether it is triggered by the main controller or the Wiegand reader. This is achieved by using the NO contact of the blue-white wire in CN4, suitable for systems where the controller and the reader control the same lock.

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.

Connect to Reader



WG Mode / Controller Mode Setting Method



1. AR-837-EA 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

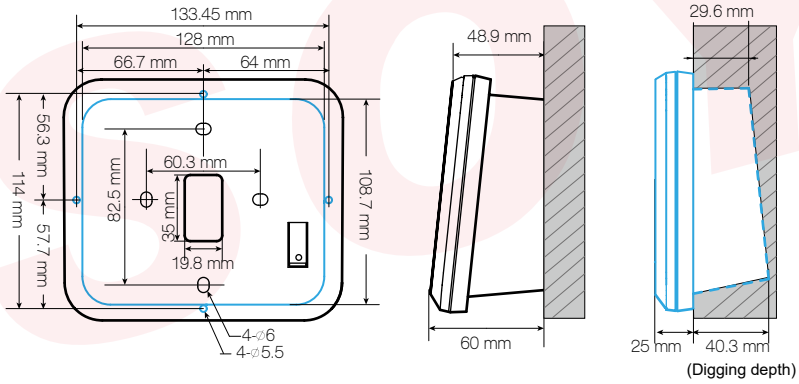
Installation Method

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 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-EA 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.

Dimension (mm)



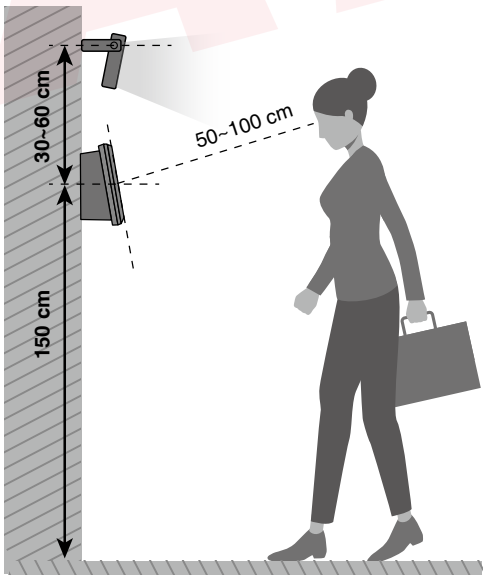
- Surface mounting hole(Front View)
- Flush mounting hole(Front View)
- Surface mounting hole (Side view)
- Flush mounting hole (Side view)

Installation Guide

Do not install in backlit areas.

Do not install directly under lighting fixtures.

※Please install the fill light above the controller, at a distance of 30–60 cm from the device.



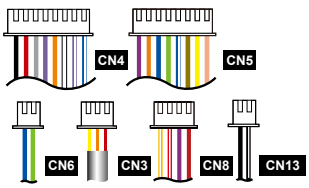
13. Contents

AR-837-EA: Face recognition

❶ Products



❷ Terminal Cables



❸ Tools

Screws



Water proof Strip



❹ Optional

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