SOYAL®
ACCESS CONTROL SYSTEM

AR-881-EF9DO

V200422

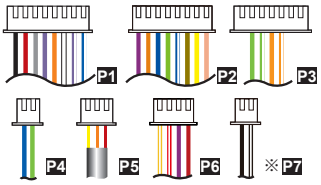
Contents

1 Product


AR-881-EF9DO


AR-881(EF-MT)

2 Terminal Cables



※ P7 only provide to the controller that have doorbell function.

3 Tools

Flat Head Cap Philips Tapping Screw: 4x20

Security Torx: M3x10

Security Torx Wrenches

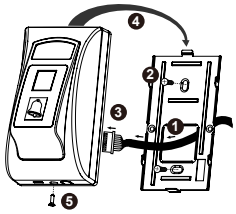
Protection Plug

4 Optional


WG keyboard

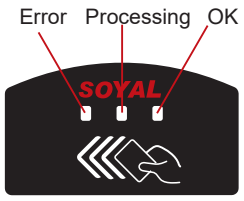

AR-721RB Digital Relay

Installation



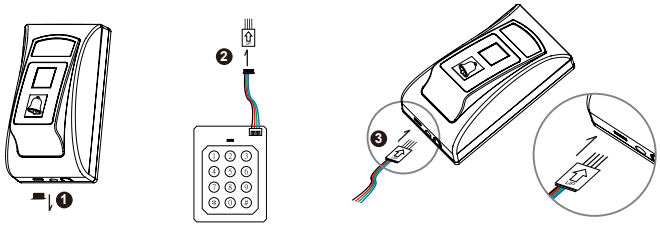
- Pull the cables from the square hole of the mounting plate.
- Use a screwdriver to screw the base onto the wall.
- Connect the terminal cables to the body and attach the body to the mounting plate.
- Assemble the covers with the Allen key and screws (accessories supplied).
- Turn on the power and LED will light and beep will sound.

Front Panel & Indicator



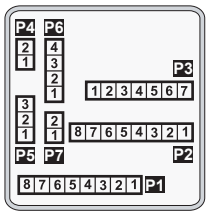
External WG keyboard

※ If you want to program system on controller directly, please order WG keyboard then install it according to the following pattern.



- Remove the Protection plug that in the bottom left. (※ Do not lose protection plug or it will affect the protection level.)
- WG Keyboard cable will be connected to the pin board.
- WG Keyboard connected to the controller from the bottom left of the hole.
- When you finish programming system, please put protection plug back to the controller.

Connector Table



Cable: P1

Wire Application	Wire	Color	Description
Lock Relay	1	Blue White	(N.O.)DC24V1Amp
	2	Purple White	(N.C.)DC24V1Amp
Common-COM-Point	3	White	(COM)DC24V1Amp
Door Contact	4	Orange	Negative Trigger Input
Exit Switch	5	Purple	Negative Trigger Input
Alarm Relay	6	Gray	Transistor Output Max. 12V/100mA (Open Collector Active Low)
Power	7	Thick Red	DC 12V
	8	Thick Black	DC 0V

Cable: P2

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 Contact	7	Orange	Negative Trigger Input
WG Exit Switch	8	Purple	Negative Trigger Input

Cable: P3

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	Gerrn	Net - RX-
	7	---	---

Cable: P4

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

Cable: P5

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

Cable: P6

Wire Application	Wire	Color	Description
Power	1	Red	DC 12V Output
Security trigger signal	2	Purple	Security trigger signal Output
Arming	3	Red White	Arming Output
Duress	4	Yellow White	Duress Output

Cable: P7 (For the controller that doorbell function.)

Wire Application	Wire	Color	Description
Doorbell	1	Black White	Transistor Output Max. 12V/100mA (Open Collector Active Low)
	2	Black	GND

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Notice

1.Tubing: The communication wires and power line should NOT be bound in the same conduit or tubing.

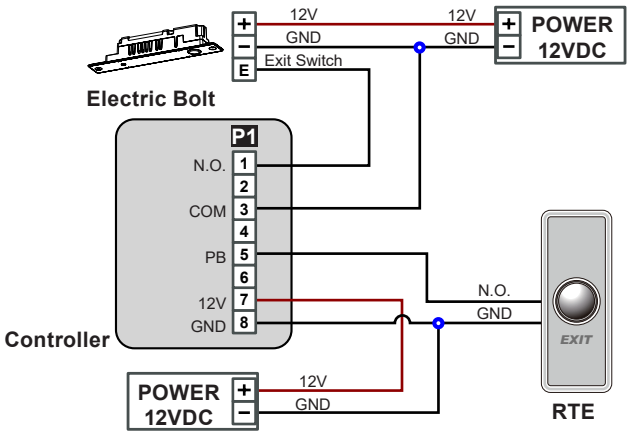
2.Wire selection: Use AWG 22-24 Shielded Twist Pair to avoid star wiring.

3.Power supply: Don't equip controller and lock with the same power supply. The power for controller may be unstable when the lock is activating, that may make the controller malfunction.

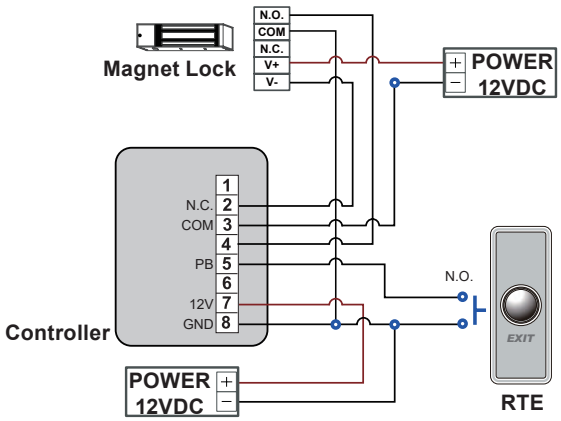
The standard installation: Door relay and lock use the same power supply, and controller use independent power supply.

Wiring Diagram

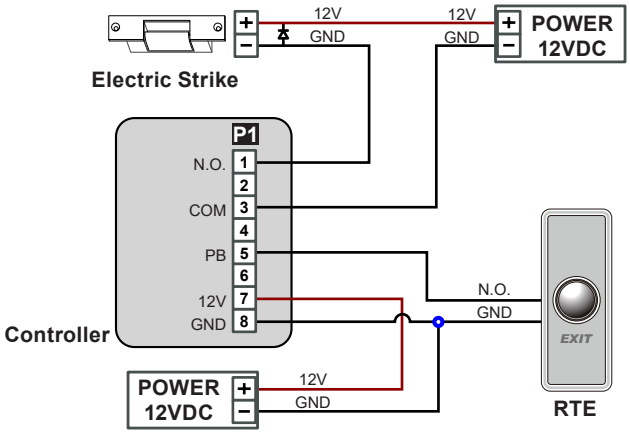
Connect to Electric Bolt



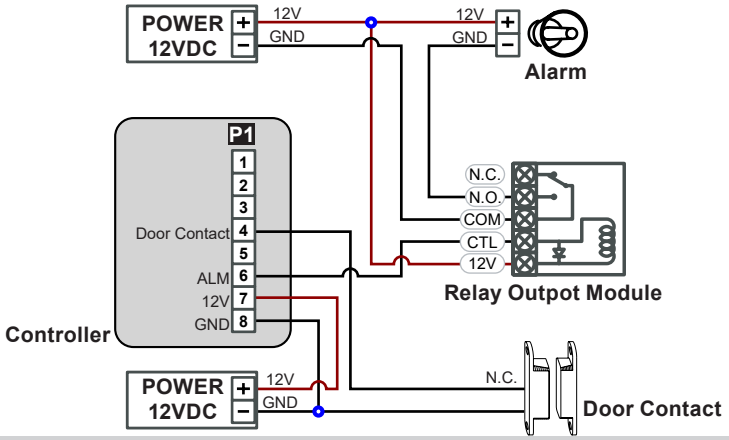
Connect to Magnet Lock



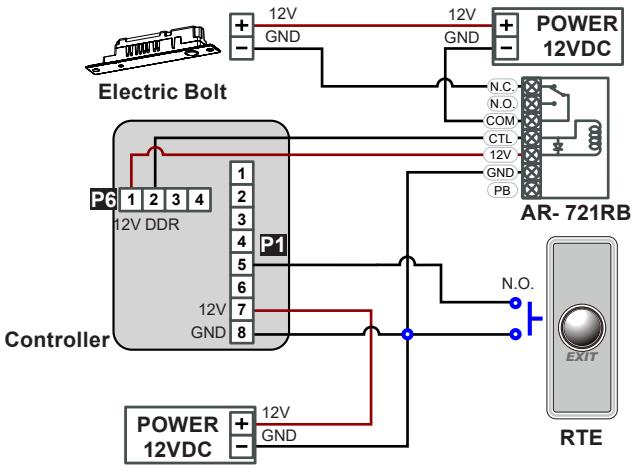
Connect to Electric Strike



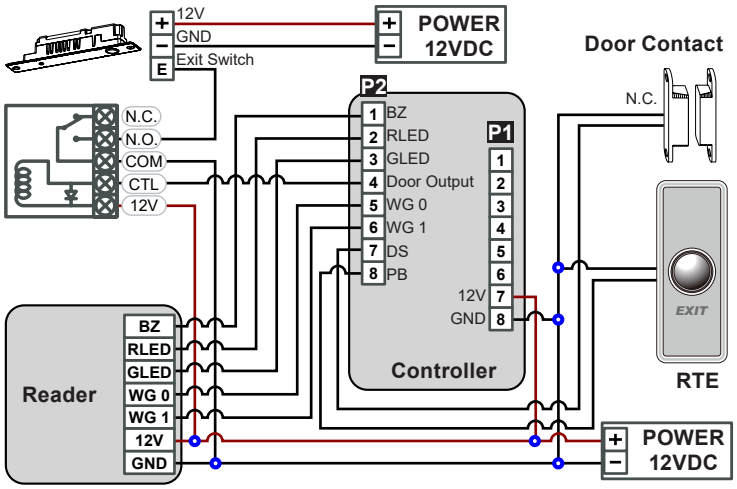
Connect to Door Contact



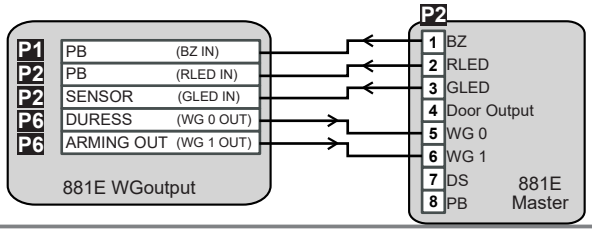
Strengthen security with AR-721RB



Connect to Reader



AR-881-EF9DO become WG mode (28 * 016 #)



1. When AR-881-EF9DO become WG mode,it can be used with any controllers.
2. AR-881-EF9DO support Anti-pass-back by finger or card.

※Using Rule :

Finger : Both 881-EF9DO Master mode and 881-EF9DO WG mode must store all the same FP data and real or visual card number.

Card : Can pass WG message to controller.

Adding and Deleting Tag

- **Add Single Tag or Random tags**

  Input *123456# (or Master Code) → 19*UUUUU*00001# → Present the tag(s) with Controller (single tag or random numbered cards one by one) → Done

  [e.g.] 2 readom cards with user addresses No. 100 and No. 101:

  Access programming mode → 19*00100*00001# → Present the tags one by one → Done

- **Add the Sequential tags**

  Input *123456# (or Master Code) → 19*UUUUU*QQQQQ# → Present the tags (Present the tag with the **lowest number** first.) → OK

  [e.g.] User Address NO.101 to NO.120 have 20 pcs of sequential tags:(62312~62332)：

  Access programming mode → 19*00101*00120# → Close Tag into RF Area(only use the tag **NO.62312**) → OK

- **Delete a Single Tag**

  Input *123456# (or Master Code) → 10*SSSSS9EEEEE#

  [e.g.] Delete User Address: 00058

  Access programming mode → 10*00058900058#

- **Delete a batch of Tags**

  Input *123456# (or Master Code) → 10*SSSSS9EEEEE#

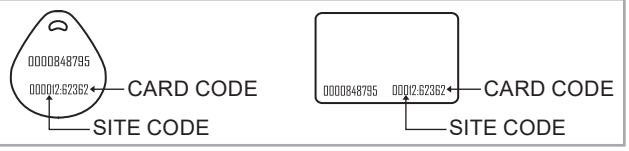
  [e.g.] Delete User Address: 00101~00245

  Access programming mode → 10*00101900245#

- **Delete All Tags**

  Input *123456# (or Master Code) → 29*29*#

Tag Information



Programming

A. 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

- **Exiting**

  Input * #

- **Changing the Master Code**

  Access programming mode → 09*PPPPPPRRRRRR# [Input the 6-digit new master code twice.]

  [e.g.] If want to changing the Master Code= 876112, input *123456# → 09*876112876112#

B. Changing the Node ID of Reader

Access programming mode → 00*NNN*MMM*AAA#

[NNN= Node ID: 000~254; MMM=AR-881-EF9DO Door NO.:1~255; AAA=WG Reader Door NO.:1~255

C. Anti-pass-back

Usually, anti-pass-back is commonly applied to parking areas in order to prevent from multi-entry with one card at a time, or somewhere wants to monitor not only the access but also exit condition.

- **Enable device**

  Access programming mode → 20*U*DDD# U= Enable target unit(0=AR-881-EF9DO,1=Reader) [Please refer to function default value for details.]

  [e.g.] If the **AR-881-EF9DO** set to **exit reader**, **WG Reader** set to **access reader**.

  Access programming mode → 20*0*128# → 20*1*192# [Please refer to function default value for details.]

- **Enable card user**

  Access programming mode → 26*SSSSS*EEEEE*P# SSSSS= starting user address; EEEEE= ending user address [P=0 Enable/ P=1 Disable/ P=2 Reset]

  [e.g.] User address from 00152 to 00684 enable the anti-pass-back function: 26*00152*00684*0#

D. Auto Open Zone

Door will keep opening after first man flashing card. When the reader is stand-alone, supporting only 16 sets of auto-open zone by device setting. Auto-open zone can extend up to unlimited sets by Networking.

- **Enable/Disable auto open zone**

  Access programming mode → 20*U*DDD# U= Enable target unit(0=AR-881-EF9DO,1=Reader) [Please refer to function default value for details.]

  [e.g.] If the **AR-AR-881-EF9DO** set to **Enable aut open zone**.

  Access programming mode → 20*0*004# [Please refer to function default value for details.]

- **Enable/Disable auto open door without presenting card**

  Access programming mode → 24*U*DDD# U= Enable target unit(0=AR-881-EF9DO,1=Reader) [Please refer to function default value for details.]

  [e.g.] If the **WG Reader** set to **Enable aut open door without presenting card**.

  Access programming mode → 24*1*128# [Please refer to function default value for details.]

- **Setting up access time**

  Access programming mode → 08*MW*NN*HHMMhhmm*7123456H# [M=AR-881-EF9DO; W=Reader(0=disable,1=enable); NN: 16 sets of auto-open zone (NN=00~15); HHMMhhmm=Starting time to ending time; 7123456H= 7 days of week + Holiday (F= 0: disable; 1: enable)]

  [e.g.] AR-881-EF9DO (**without WG reader**), to set second time zone which could be passed only at 9:30am to 4:20pm on Mon, Wed and Fri.

  Access programming mode → 08*10*02*09301620*01010100# → setting is completed

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E. Lift control

Connect with **AR-401RO16B** to control floors which the user will be able to access. [BAUD9600]

- **Single floor**

  Access programming mode → 27 * UUUUU * LL #

  UUUU=User Address LL=Floor number (01~64 floor)

  [e.g.] User address NO. 45 only can reach the elevator to the 24th floor: 27 * 00045 * 24 #

- **Multi floors**

  Access programming mode → 21 * UUUUU * G * LLLLLLLL #

  [UUUUU=User address G: 8 sets of lift control (Input: 0~7) LLLLLLLL:

  8 floors setting (L=0=Disable, L=1=Enable)

  [e.g.] User address NO. 168 can reach only the 6th and 20th floor:

  Access programming mode → 21 * 00168 * 0 * 00100000 #

  → 21 * 00168 * 2 * 00001000 # → OK (Please refer to floor chart as right.)

Please refer to below floor chart

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

F. Setting Up the Arming

- **Conditions:**

  1. Arming is enabled

  2.Alarm system connected

- **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.

- **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 * U #	Induct valid card → Input 4 digit pass code → # → Input 4 digits arming code → * * # or * U #
Induct valid card → Input 4 digit arming code → * * #	Induct valid card → Input 4 digit arming code → * U # or #		
Enter Program Mode			
Enable all devices: Access programming mode → * * #		**Enable particular device:** Access programming mode → * * U #	

- **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 * U #	Induct valid card → Input 4 digit pass code → # → Input 4 digits arming code → * 9 # or * U #
Induct valid card → Input 4 digit arming code → * 9 #	Induct valid card → Input 4 digit arming code → * U # or #		

※ **Factory default armingcode is: 1234. U=Reader unit (0=AR-881-EF9DO, 1=WG Reader).**

G. Adding / Deleting Fingerprint

- **Adding**

  Access programming mode → 3 9 * F * UUUUU # Place your finger on the sensor

  [F=1= Adding 1 Finger data; F=2= Adding 2 Finger data; UUUUU= User address]

  How to add a finger data:

Adding 1 Fingerprint (By DO)	Finger 1					Bi	Di	Bi			Long Bi (OK)	
Adding 2 Fingerprint (By DO)	Finger 1	Bi	Di	Bi	Long Bi (OK)	Finger 2			Bi	Di	Bi	Long Bi (OK)

※ **If you hear continuous "beep..." sounds when you place finger on the sensor, please release your finger from the sensor.**

- **Deleting**

  Access programming mode → 3 9 * 0 * UUUUU #

  UUUUU= User address

- **Deleting All**

  Access programming mode → 3 9 * 9 * 99999 #

H. Enable/Disable Skip Finger/Tag

- Access programming mode → 4 0 * F * NNNNN * EEEEE #

(Please consult detail command on page 8.)

NNNNN＝starting user address

EEEEE= ending user address

F＝1+3(Default Value)

Command Setting	Software Setting	Access Mode	Way
40 * 1 * NNNNN * EEEEE # 40 * 3 * NNNNN * EEEEE #	☐ Just fingerprint ☐ Just card control	FP first and then Tag	First + Then
40 * 0 * NNNNN * EEEEE # 40 * 2 * NNNNN * EEEEE #	☑ Just fingerprint ☑ Just card control	FP only or Tag only	or

I. Adding / Deleting Fingerprint

1. For dual-fingerprint sensor module version, capactive sensor module is the only enabled way for enrolling FP.
2. For dual-fingerprint sensor module version, user just can select one of fingerprint sensor for identification and can't put two fingerprints to different sensor at the same time.
3. Extra WG keypad panel is needed for adding card or downloading data connected to PC.
4. Each finger need to be collected **1 times** enrolling for AR-881-EF9DO.

J. The process of FP identification

1. While attached a finger on biometric sensor, there is a beep sound for starting the scanner. Then, please don't move your finger until the 881-EF9DO makes another beep sound.
2. If there is a 8-beep sound after user gets access by FP, the FP data shall be reset by command 39*9*99999# under the programming mode.
   Cautions: Before reset the FP, please backup the data from source FP first.

AR-881-EF9DO

Restoring Factory Settings

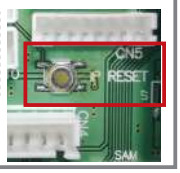
Reset all device parameters and user card data

- **Reset all device parameters and user card data:**

  Use the command:
  Access programming mode → 29 * 29 9 #
  Use the Button on the PCB:

  Press **"IP Reset Button"** of main board for few seconds,then IP and all device parameters will reset. (Reference to picture)

  ※ After reset, you will hear the long reminder sound,and wait until the sound disappear. Resupply the power to device will restore factory setting. please refer to [38 * DDD #] command to reopen.



- **Reset all user card data:**
  Access programming mode → 29 * 29 * #

  Deleting All Fingerprint:
  Access programming mode → 39 * 9 * 99999 #

Firmware Upgrade

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

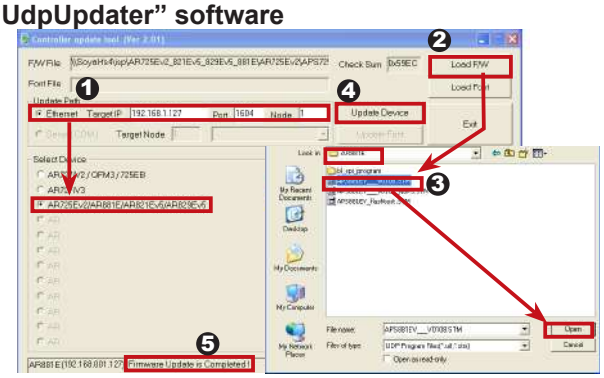
- **Execute the software** UDP Updater

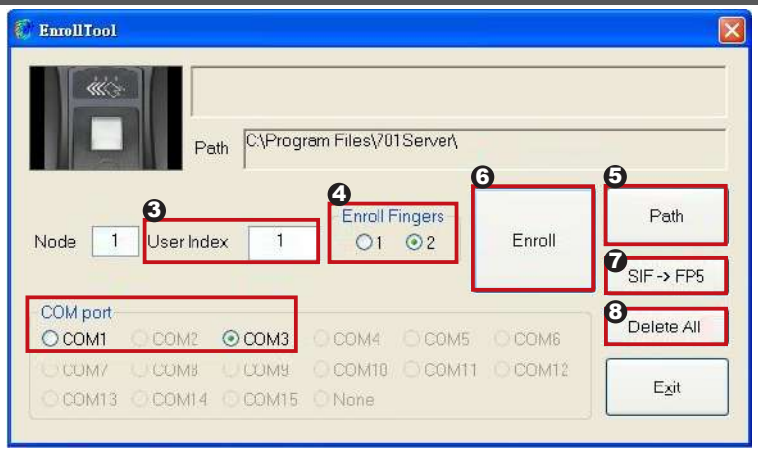
  The software is within SOYAL CD or Login the SOYAL web to downloads

- **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]





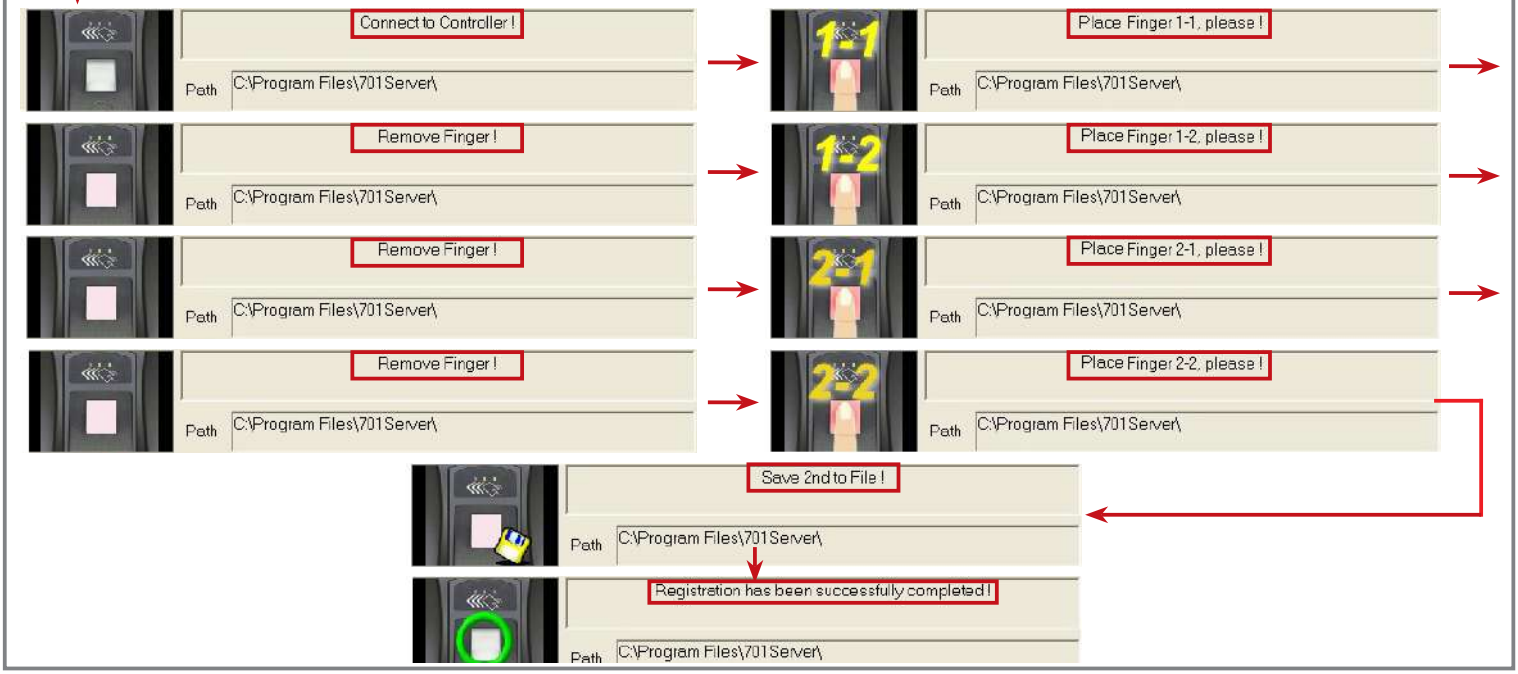
1. Select correct "COM Port".
2. Select "Node ID" of the device.
3. Input "User Address".
4. Select the numberof enrolled fingers in assigned path (1FP or 2FP per User).
5. Select "Save Path" in which will save fingerprint data.
6. Click "Enroll", follow pop-up picture and Status bar to enroll FP as below:
   Connect to Controller—》Place 1st finger 1st time to Finger sensor—》remove finger—》Place 1st finger 2nd time—》remove finge—》Place 2nd finger 1st time—》remove finger—》Place 2nd finger 1st time—》Save FP data to File—》Registration Completed.

Transfer fingerprint format V9 -> V5

7. Click "SIF→FP5 " ,select old AR-881-EF9DO FP file format. SIF , the system will automatically generate new single FP file format. FP5 older.

Deleting fingerprint database on the device

8. Click"Delete All" , all Fingerprint data from device will be deleted completely.



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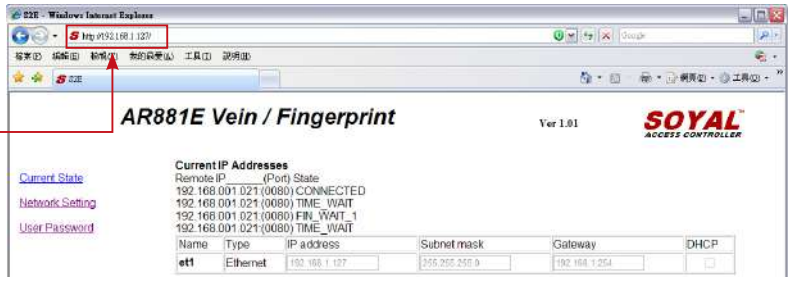
IP Setting

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



If the IP address of AR-881-EF9DO has changed We must enter the new IP address.

- **Page menu**

Current State ← 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-881-EF9DO

- **Log-in User Password**

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

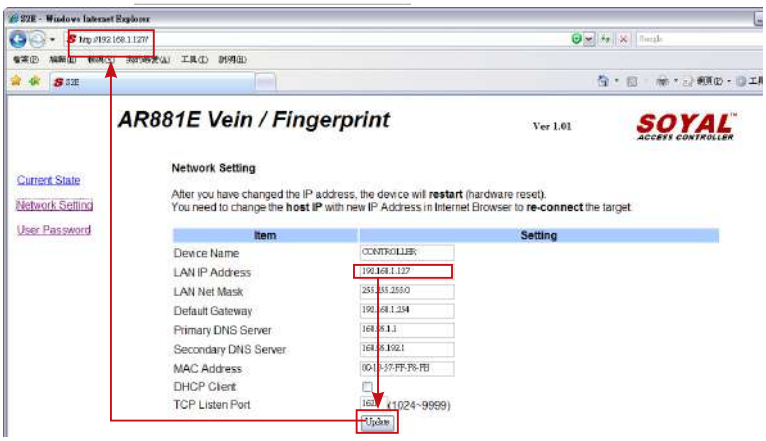
※ At the Factory Default

User name: SuperAdm

Password: 721568

- **Networking Setting**

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



- **User Password**

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

The password composes of 10 characters at most, it can be either A~Z or 0~9.

Command List (By WG Keyboard)

Function	Command	Exposition
Entering programming mode	* PPPPPP #	PPPPPP: Master Code, (Default value: 123456)
Exiting programming mode	* #	
Exiting programming mode and enabling all device into arming status.	* * #	Including 881-EF9DO, WG Reader
Enabling each device into arming status.	* * U #	U＝Enable target unit（0=881-EF9DO , 1=WG Reader）
Node ID setting	00 * NNN * MMM * AAA #	NNN＝Node ID,(001~254) MMM＝881-EF9DO Door Number,(001~255) AAA＝WG Reader Door Number,(001~255)
IP Address assign (Must power reset)	01 * 0 * CCCCCCCCCCCC #	default value = 192.168.1.127 CCCCCCCCCCCC = 192168001127 If set to 000.000.000.000 will enable DHCP otherwise will disable DHCP
	01 * 1 * 255255255000 #	Netmask
	01 * 2 * 192168001254 #	Gateway assign

Command List (By WG Keyboard)

Function	Command	Exposition
Door relay time setting	02 * U * TTT #	U＝Enable target unit (0=881-EF9DO , 1=WG Reader) TTT＝Door relay time 000 (Output constantly) 001~600＝1-600 Sec.；601~609＝0.1~0.9Sec.
Alarm relay time setting	03 * TTT #	TTT＝Alarm relay time；000 (Output constantly) 001~600＝1~600 Sec.
Arming delay time setting	05 * TTT #	Base on second, range: 001~255
Alarm delay time setting	06 * TTT #	Base on second, range: 001~255
Master card setting	07 * SSSSS * EEEEE #	SSSSS-EEEEE＝00000~15999 SSSSS= starting user address; EEEEE= ending user address
Auto-open zone setting	08 * MW * NN * HHMMhhmm * 7123456H #	M=881-EF9DO; W=WG Reader (0=disable; 1=enable) NN＝16 sets of auto-open zone (Range: 00~15) HHMMhhmm=staring time to ending time (e.g.: 08301200=08:30 to 12:00) 7123456: 7 days of week -Sun/Mon/Tue/Wed/Thu/Fri/Sat (Input value: 0=disable; 1=enable) H: Holiday (Input value: 0=disable; 1=enable)
Master code settings	09 * PPPPPPRRRRRR #	PPPPPP= New master code RRRRRR= Repeat the new master code
Suspend or delete tags	Suspend：10 * SSSSS * EEEEE # Delete： 10 * SSSSS 9 EEEEE #	* :Suspend 9 :Delete SSSSS= starting user address; EEEEE= ending user address
Recover tag	11 * SSSSS * EEEEE #	SSSSS= starting user address; EEEEE= ending user address
Setting up Card or PIN mode by user address	12 * UUUUU * PPPP #	UUUUU= user address; PPPP=4-digit individual PWD (Access mode: Card or PIN)
Arming output setting	14 * TTT #	Base on 1ms, range:1~255, default value=10, Input 0= Timeless
Duress code setting	15 * PPPP #	PPPP＝4-digit PWD (0001-9999) Default value：4321
Arming PWD setting	17 * PPPP #	PPPP＝4-digit PWD (0001-9999) Default value：1234
Enabling or Disabling into arming status	Card+NNNN #	NNNN：Arming PWD U＝Enable target unit (0=AR-881-EF9DO, 1=WG Reader)
Enabling or Disabling each device into arming status.	Card+NNNN * U #	
Enabling all device into arming status.	Card+NNNN * * #	
Disabling all device into arming status.	Card+NNNN * 9 #	
Door open waiting time	18 * U * TTT #	U＝Enable target unit（0=881-EF9DO , 1=WG Reader） TTT=Door open waiting time:001~600;default value:15 sec.
Add card by presenting	19 * UUUUU * QQQQQ #	UUUUU＝user address QQQQQ=Card quantity(00001=Continuously inducting)
Reader additional setting	20 * U * DDD #	U＝Enable target unit (0=AR-881-EF9DO, 1=WG Reader) DDD=Function default value
Lift control setting: multi-doors	21 * UUUUU * G * LLLLLLLL #	UUUUU＝user address；G=4 sets of lift control(0~3); LLLLLLLL=8 assigned floor (F=0: Disable, 1: Enable)
AR-401RO16/ AR-401RO16B relay time setting	23 * MMM * TTT #	MMM=Node ID of lift controller TTT= relay time: 000~600=1~600 sec.
Factory setting	24 * U * DDD #	U＝Enable target unit (0=AR-881-EF9DO, 1=WG Reader) DDD：Function default value
Real time clock setting	25 * YYMMDDHHMMSS #	YYMMDDHHmmSS: Year/Month/Day/Hour/Min./Sec.
Anti-pass-back (Enable user)	26 * SSSSS * EEEEE * P #	SSSSS= starting user address; EEEEE= ending user address P=0=Enable; P=1=Disable; P=2=Initial
Lift control setting: single door	27 * UUUUU * LL #	UUUUU＝user address；LL：Floor number(01~64 floor)
Duress Function and Arming output setting	28 * FFF #	Arming output and Duress function: FFF= 008 (default value)
Delete all tag	29 * 29 * #	
Same tag reading interval time	31 * TTTT #	Base on 10ms, range from 10 to 6000
Auto ring the clock alarm schedule	32 * SS * HHMMTT * 7123456H #	SS= 16 sets auto alarm schedule, range 0~15 HHMM= HH:MM (ex. 0830: Ring bell at 08:30) TT=Period of time to ring bell (Base on second, range 01~99 sec.) 7123456: 7 days of week -Sun/Mon/Tue/Wed/Thu/Fri/Sat (Input value: 0=disable; 1=enable) H: Holiday (Input value: 0=disable; 1=enable)
Holiday Setting	35 * MMDD * F #	MM= Month of year (01=Jan...10=Oct.) DD= Date of month (01=1st day of month) F= 0:Delete ; 1: Add

Biometrics Device Access controller

Fingerprint

V200422

Command List (By WG Keyboard)

Function	Command	Exposition
Enabling or Disabling into Full Access status	**36 * MW #**	M=881-EF9DO ; W=WG Reader (0=disable; 1=enable)
RS485 port function setting (Needs to be restarted after setting)	**37 * AB #**	A=0:AR401RO B=0: 9600(default value) 1:Host (default value) 1: 19200 2:LED Panel 2: 38400 3:Printer 3: 57600
Biometric forms set (Needs to be restarted after setting)	**38 * DDD #**	002=2000 Finger-Vein recognition 003=9000 Optical / Capacitive fingerprint recognition 004=200 Optical fingerprint recognition 008=200 Capacitive fingerprint recognition 012=200 Optical & Capacitive fingerprint recognition
Adding / Deleting Fingerprint	**39 * F * UUUUU #**	F= 1: Adding one finger data 2: Adding two finger data 0: Delete UUUUU=user address
Deleting All Fingerprint	**39 * 9 * 99999 #**	
En/Disable Skip Finger/Tag	**40 * F * NNNNN * EEEEE #**	First 40*1*NNNNN*EEEEE# Then 40*3*NNNNN*EEEEE# ┐ setting a pair of command Access mode: FP first and then Tag (Default Value)
		First 40*0*NNNNN*EEEEE# Then 40*2*NNNNN*EEEEE# ┐ setting a pair of command Access mode: FP only or Tag only NNNNN= starting user address;EEEEE= ending user address

Function Default Value

20 * U * DDD # ※Default Value

Function	Option		Value	Bit	Application
Entry and Exit Access is recorded on Duty Report	※0: Yes	1: No	001	0	Networking
Activate close door automatically lock (Auto-Relock)	※0: Disable	1: Enable	002	1	Networking/Stand-Alone
Auto Open	※0: Disable	1: Enable	004	2	Networking/Stand-Alone
When Access Mode is "Card and PIN", Readers can skip pressing PIN code	※0: Disable	1: Enable	008	3	Networking/Stand-Alone
Exit by Push Button	0: Disable	※1: Enable	016	4	Networking/Stand-Alone
Enable force Open trigger alarm	※0: Disable	1: Enable	032	5	Networking
Entry/Exit Reader	※0: Exit	1: Entry	064	6	Networking
Anti-pass-back	※0: Disable	1: Enable	128	7	Networking

24 * U * DDD # ※Default Value

Function	Option		Value	Bit	Application
Enable Egress Beep Sounds	※0: Enable	1: Disable	001	0	Networking/Stand-Alone
----	----	----	002	1	----
----	----	----	004	2	----
Arm/Disarm Zone(Zone: 62)	※0: Enable	1: Disable	008	3	Networking/Stand-Alone
Reader and controller share the same door relay (only for WG reader)	0: Disable	※1: Enable	016	4	Networking/Stand-Alone
Free Access Mode	※0: Disable	1: Enable	032	5	Networking/Stand-Alone
Stop alarm by pressing push button or closing the door	※0: Disable (must swipe valid card)	1: Enable	064	6	Networking/Stand-Alone
Enter auto open time zone without presenting valid card	※0: Disable (must present valid card first)	1: Enable	128	7	Networking/Stand-Alone

28 * FFF # ※Default Value

Function	Option		Value	Bit	Application
Expiry User Access Trigger Alarm	※0: Disable	1: Enable	001	0	Networking/Stand-Alone
Reset Anti-Passback on Timezone 61	※0: Disable	1: Enable	002	1	Networking/Stand-Alone
---	----	----	004	2	----
Duress and Arming Output function	0: Wiegand Output	1: Arming and Duress Output	008	3	Networking/Stand-Alone
RS-485	Lift Control: 0		000	4-5	Networking/Stand-Alone
	Host: 1		016		
	LED Board: 1		032		
	Printer: 1		048		
----	----	----	032	6	----
----	----	----	064	7	----

※ U=Controller/Reader (0= Master Controller; 1= Slave Reader); DDD= Weighted Value

Weighted Value Manual

Step 1: Select the 'Function' that you need for each command (20*, 24*, 28*)

Step 2: 'Option' of function that you need, it is either 0/1 option value.

Step 3: Subtract the 'Value' of each Option with 'Option' Value.

Example 1:
Setting up Main Controller under command 20* for function 'Enable force Open trigger alarm' + 'Entry Reader' + 'Anti-pass-back' = (1*032) + (1*064) + (1*128) = weighted value 224; enter 24*0*224#