SOYAL

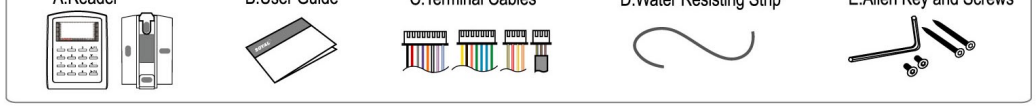
v070403

AR-727H

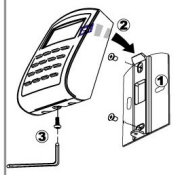
Networking & Stand-alone Controller
Networking Reader

Contents

A.Reader | B.User Guide | C.Terminal Cables | D.Water Resisting Strip | E.Allen Key and Screws



Installation



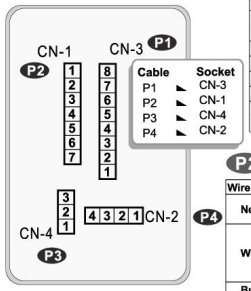
Steps

1. Using a screwdriver, screw the mounting plate to the wall.
2. Pull cable ends through the access hole in the mounting plate.
3. Attach body to the mounting plate and install screw (supplied) into the hole at the bottom with the Allen Key (supplied).
4. Apply power. Green LED (Power) will light up, a beep sound and display will show up.

Notice

- **Tubing**
  The communication wires and power line should not be housed in the same electrical conduit or tubing. They should always be installed in separate tubes.
- **Cable selection**
  Use AWG 22-24 "Shielded Twisted Pair" to avoid star wiring.
- **Power supply**
  Do Not connect the reader and lock to the same power supply. While the lock activating will case the reader's power unstable and might affect the reader function. The standard connection of power supply is the door relay and the lock use the same power supply; the reader use independent power supply.

Installation Diagram



P1 Table1-Connector CN3 Color Coding

Wire Application	Wire	Color	Description
Door Relay	1	Blue White	(N.O.)DC24V1Amp
	2	Purple White	(N.C.)DC24V1Amp
Door/Alarm Relay	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 Power 12V
	8	Thick Black	DC Power 0V

P2 Table2-Connector CN1 Color Coding

Wire Application	Wire	Color	Description
Networking	1	Thick Green	RS-485(B-)
	2	Thick Blue	RS-485(A+)
Wiegand	3	Thin Blue	Wiegand DAT:1 Input ABA Clock Input
	4	Thin Green	Wiegand DAT:0 Input ABA Data Input
Buzzer	5	Pink	Buzzer Output 5V/100mA, Low
LED	6	Brown	LED Green Output 5V/20mA, Max
	7	Yellow	LED Red Output 5V/20mA, Max

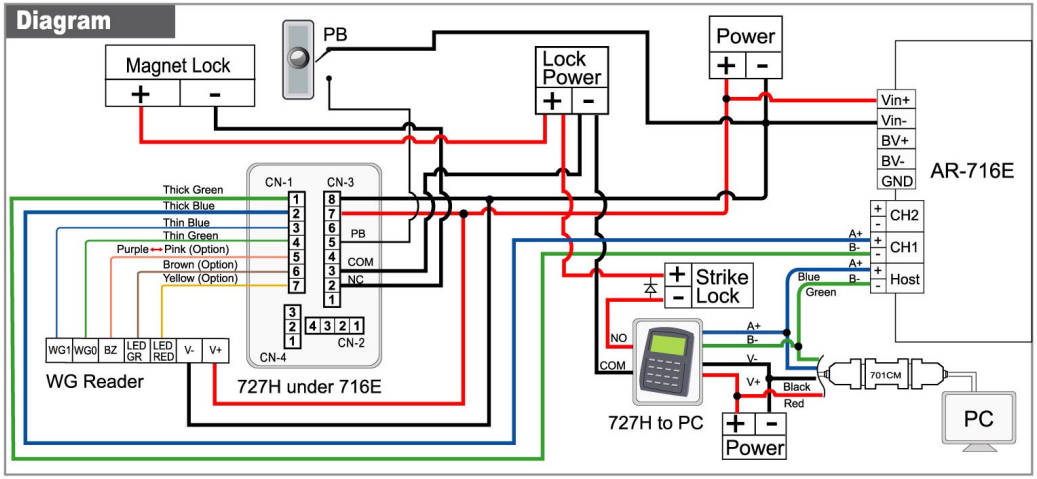
P3 Table3-Connector CN4 Color Coding

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

P4 Table4-Connector CN2 Color Coding

Function	Wire	Color	Description
Arming Setting Input	1	Orange White	ON ⊥ OFF Latch type
Serial Port	2	Yellow White	Serial output (Transistor open collector) (4800,N,8,1)
Arming Status Output	3	Red White	Arming output (Active low)
Card Present	4	Brown White	Card present output active low (Transistor output)

Diagram



1. Please visit to www.soyal.com for more information.

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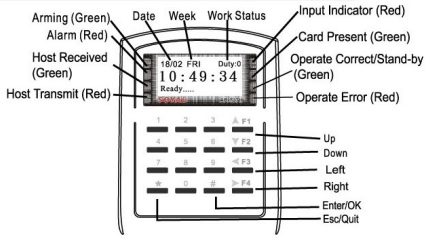
Front Panel & Indicator



Attendance

	Press 1 time	Press 2 times
F1	Duty on	Break out
F2	Duty off	Break RTN
F3	Overtime on	Go
F4	Overtime off	Return

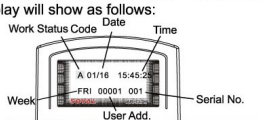
Language Mode

511

instant change your language mode in AR-727H

Q: How to review the old events?

A: Access programming mode ***123456#** or ***Master Code#** (If already changed) → **5. Tools** → **0. View Events** the display will show as follows:



Work Status Code:

A: Duty On	01: PWD/PIN Error
B: Duty Off	03: Invalid Card
C: Overtime On	04: Time-zone Error
D: Overtime Off	11: Normal Access
E: Break Out	16: Egress (Request to exit)
F: Break RTN	17: Alarm
G: Go Out	31: Anti-pass-back Error
H: Return	

Manu Tree

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 Settings
1. Password
2. Access Mode
3. Extend Options
4. Single Floor
5. Multi Floors

3. Parameters(1)
1. Node ID
2. AutoOpen Zone
3. Door Relay Tm
4. Door Close Tm
5. Alarm Relay Tm
6. Alarm Delay Tm
7. Arming Delay Tm
8. Arming PWD
9. Arming Pulse

4. Paramet ers(2)
1. Auto Relock
2. Egress (R.T.E)
3. Attendance
4. Master Node
5. Force Open
6. Close & Stop
7. Anti-passback
8. Duress Code
9. Factory Reset
0. Key (#) is Bell

5. Tools
1. Language
2. Master Code
3. Master Range
4. Terminal Port
5. AR401R16 Node
6. Open TimeZone
7. Information
8. Clock Setting
9. Control Mode
0. View Events

6. Quit

7. Quit&Arming

Programming

A、Entering and exiting programming mode

- Entering : Press initial Master Code ***123456#**
- Exiting : Press the ***** repeatedly → **6. Quit** → then press **#** to confirm

B、Initial setup

1.Restoring Factory Settings

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **4. Parameters (2)** → **5. Factory Reset** → **Succeeded!** → **Initial system..** **(Done)**

2.Changing the Master Code

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **5. Tools** → **2. Master Code** → **Input 6 digit no 000001~999999**, please enter the new 6 digit master code → **Succeeded!**

3.Changing the Node ID of Reader

- Access programming mode ***123456#** or ***Master Code#** (if already changed → **3. Parameters (1)** → **1. Node ID** → **Input new Node ID 1~254** (default value: 1)

C、Setting up the control mode (M4/M6/M8)

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **5. Tools** → **9. Control Mode** → **1: M4, 2: M6, 3: M8** (refer to below chart) → **Succeeded!**

Mode / Application	M4	M6	M8
Connection	Stand-Alone Networking	Stand-Alone	Stand-Alone Networking
User Capacity	1024 (0~1023)	65535 (1~65535)	1024 (0~1023)
Access Mode	1. Card only 2. Card and PIN (4-digit individual PIN) 3. Card or PIN (if access byPIN only, user should press 9-digit PIN = 5-digit user address + 4-digit individual PIN)	1. Card only 2. Card and PIN (4-digit public PIN = Arming PWD) 3. Card or PIN (4-digit public PIN = Duress code) P.S.: Duress code is unavailable under M6 and as PWD of PIN only	1. Card only 2. Card and PIN (4-digit individual PIN) 3. Card or PIN (if access by PIN only, user could just press 4-digit individual PIN)
Auto-show Work Status	V	X	V
Event Capacity	1200	X	1200
120 Holidays	V	X	V
Anti-duress	V	X	V
Time Zone	11	X	11
Lift Control	32	X	32
Anti-pass-back	V	X	V

D、Setting up the access mode

- Access programming mode ***123456#** or ***Master Code#** (Ifalready changed) → **2. User Setting** → **2. Access Mode** → **Input 5-digit user address 00001~01023** or **Input user address 1~1023** → 1: Card, 2: or PIN, 3: & PIN, 4. Pause
  - Press **1** for access by presenting card
  - Press **2** for access by presenting card or PWD
  - Press **3** for access by presenting card and entering PWD
  - Press **4** to pause access for this user → **Succeeded!**

E、Setting up the password

1.Individual PWD (M4/M8)

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **2. User Setting** → **1. Password** → **Input 5-digit user address 00001~01023** or **Input user address 1~1023** → **Input 4-digit PWD 0001~9999** → **Succeeded!**

2.Public PWD (M6)

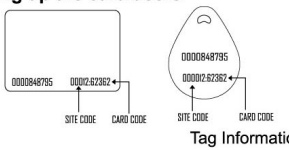
2.1Arming PWD (Card & PIN):

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **3. Parameters(1)** → **8. Arming PWD.** → **Input 4-digit PWD 0001~9999** (default value: 1234) → **Succeeded!**

2.2Duress Code (PIN only):

- Access programming mode ***123456#** or ***Master Code#** (If already changed) → **4. Parameters(2)** → **8. Duress Code** → **Input 4-digit PWD 0001~9999** (default value: 4321) → **Succeeded!**

F、Setting up the card users



Tag Information

2. The AR-727H can be operated using PC Software. Contact your supplier for details.

1.Adding and Deleting Tag

Adding Tag (M4/M8)

Single Tag

Tag ID

Access programming mode
*123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
1. Add→Card ID
↓
User Address:
Input 5 digits: 00000~01023
↓
Set 00000 Site:
Input 5 digits Site Code
↓
Set 00000 Code:
Input 5 digits Site Code
↓
Succeeded!

RF Learn Function

Access programming mode
*123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
2. Add→RF Learn
↓
User Address:
Input 5 digits: 00000~01023
↓
Tag Units (PCS)
i.e. Only one tag can input 5 digits 00001 or 1 , and then press #
↓
Close Tag into RF Area
Present the tag to the controller.
↓
OK
(Memory location number)

A Batch of Tags

Sequential Tag NO.

Access programming mode *123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
2. Add→RF Learn
↓
User Address:
Input 5 digits: 00000~01023
↓
Tag Units (PCS)
Enter the quantity of tags to be added, and then press #
↓
Close Tag into RF Area
Present the tag with the lowest number to the controller.
↓
OK
(Memory location number)

Random Tag NO.

Access programming mode *123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
2. Add→RF Learn
↓
User Address:
Input 5 digits: 00000~01023
↓
Tag Units (PCS)
i.e. Only one tag can input 5 digits 00001 or 1, and then press #
↓
Close Tag into RF Area
Present the tag to the controller.
↓
OK
(Memory location number)
The First tag has now been added, present the rest of the tags one after the other to add them to the system as well.

Deleting Tag (M4/M8)

Single Tag

Tag ID

Access programming mode
*123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
6. Delete→ID
↓
User Address:
Input 5 digits: 00000~01023
↓
Set Site:
Input 5 digits Site Code
↓
Set Code:
Input 5 digits Site Code
↓
Succeeded!

Memory Location

Access programming mode *123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
5. Delete→ADDR
↓
Input Start ADDR:
Input 5 digits: 00000~01023
i.e.: Single Tag: 00001
↓
Input End ADDR:
Input 5 digits: 00000~01023
i.e.: Single Tag: 00001
↓
Succeeded!

A Batch of Tags

Memory Location

Access programming mode *123456# or *Master Code# (If already changed)
↓
1. Add/Delete
↓
5. Delete→ADDR
↓
Input Start ADDR:
i.e.: A Batch of Tags 00001~00013
Input 5 digits: 00001 (Start Addr)
↓
Input End ADDR:
i.e.: A Batch of Tags 00001~00013
Input 5 digits: 00013 (Start Addr)
↓
Succeeded!

2.Suspend and Recover Tag

By Address (M6)

The card code has been programmed into device and regarded as user address, so the card user only can be set up by suspend (disable) and recover (enable).

Access programming mode → **1. Add/Delete** → **3. Suspend > Address** / **7. Recover > Address** → **Input 5 digits start address:** 00001~65535 (=card code) → **Input 5 digits end address:** 00001~65535 (=card code)

By ID# (M4/M8):

Suspend and recover tag temporarily.

Access programming mode → **1. Add/Delete** → **4. Suspend > ID#** / **8. Recover > ID#** → **Input 5 digits site code:** 00001~65535 → **Input 5 digits card code:** 00001~65535

G、Setting up the alarm

1.Conditions:

1.Arming enabled
2.Alarm system connected

2.Application:

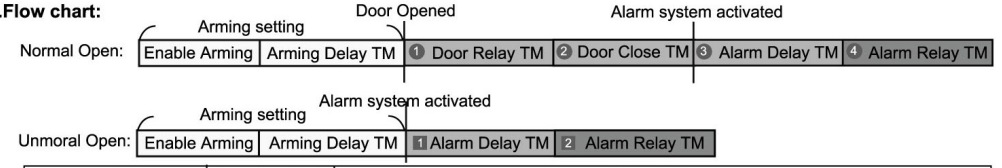
1.Door opened too long (After Normal Opening)
Door opened over the time of door relay time and door close time.
2.Door sensor error.
Door sensor is open loop.
3.Force open (Opened without a valid user card being shown)
Access by force open and illegal procedure.

Q : How to enable/disable the arming?

A :

M4/M8			M6
Card Only		Card and PIN	
Open the door	Not open the door		
Present the tag to reader → * → Input 4 digits arming PWD → Press # or F1	Present the tag to reader → Input 4 digits arming PWD → Press # or F1	Present the tag to reader → Input 4 digits individual PWD → # → Input 4 digits arming PWD → Press # or F1	Present the tag to reader → Input 4 digits arming PWD → Press # or F1

3.Flow chart:



Function	Function Code	Description
Door Relay TM ❶	33	To set how long the door relay (lock release) is active for after showing a card. Range: 0 ~ 600 (sec.); 601~609 (0.1~0.9 second) To set value "0" will make door keep opening till card presented again, then door close. (Default value: 7 sec.)
Door Close TM ❷	34	Sets how long the door contact can remain open for before activating the alarm. (Default value: 15 sec.)
Alarm Relay TM ❹ 2	35	When an alarm condition has arisen, the alarm will activate for this duration. Range: 1 ~ 600 (sec.) To set value "0" will make alarm relay keep on until disarming, then alarm relay off. (Default value: 7 sec.)
Alarm Delay TM ❸ 1	36	To delay the activation of the alarm relay after an alarm condition has arisen, so that user can have enough time to disable alarm. (Default value: 1 sec.)
Arming Delay TM	37	To delay the time of enabling arming, so that user can have enough time to disable arming. Range: 1 ~ 600 (sec.) (Default value: 1 sec.)
Force Open	45	Activate the alarm immediately w/o having any alarm delay TM

H、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 → **4. Parameter (2)** → **7. Anti-passback** → **Input: 1 or 2** Enable/Disable Anti-pass-back: 1. Yes, 2. NO → **Input: 1 or 2** as indoor or outdoor reader: 1. Indoor, 2.Outdoor

■ **Enable the card user**

Access programming mode → **1. Add/Delete** → **9. Antipass Group** → **Input 5 digits start address: 00001~01023** (User address) → **Input 5 digits end address: 00001~01023** (User address)

I、Lift control

Connect with lift controller (AR-401RO16) to control which floors the user will be able to access.

■ **Single floor**

Access programming mode → **2. User Settings** → **4. Single Floor** → **Input user address: 00001~01023** → **Input single floor number: 1~32**

■ **Multi floors**

Access programming mode → **2. User Settings** → **5. Multi Floors** → **Input user address: 00001~01023** → **Select range : 1 or 2** (1. 1~6 / 2. 17~32) → **Input 16 digits multi floor number: 0100100000010100** (0: disable, 1: enable)

According to above instance of floor number, the particular user can get access to floor number (2, 5, 12, 14) or (18, 21, 28, 30).