SOYAL®
ACCESS CONTROL SYSTEM

AR-723H

V110713

Content & Feature

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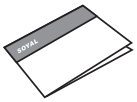
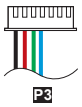
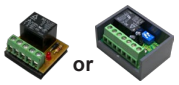
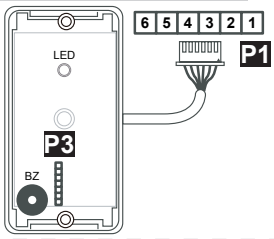


P3

AR-WG-KEYBOARD

AR-821-RB or AR-721-RB

- Standalone and Networking model for selection
- 1 Bi-color LED & 1 Buzzer
- Built-in Watch Dog to prevent system from hanging
- The Master Card function for adding/ deleting cards
- Can set parameters by external keyboard

Connector Table

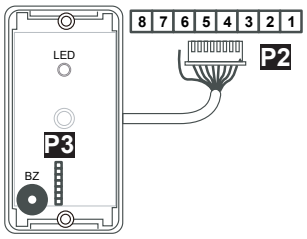
Stand-Alone



Standalone: P1 6 PIN (NO RS-485)

Application	Wire	Color	Description
Power	1	Black	DC 0V (GND)
R.T.E	2	Brown	Negative Trigger Input
Power	3	Red	DC 12V
Door Contact	4	Orange	Negative Trigger Input
Alarm Relay	5	Yellow	Open collector output
Lock Relay	6	Green	Open collector output/ Security Trigger Signal

Networking



Networking: P2 8 PIN + GND (RS-485)

Application	Wire	Color	Description
Power	1	Black	DC 0V (GND)
	2	Red	DC 12V
Alarm Relay	3	Gray	Open collector output
R.T.E	4	Purple	Negative Trigger Input
Door Contact	5	Orange	Negative Trigger Input
Lock Relay	6	White	Open collector output/ Security Trigger Signal
RS-485	7	Blue	RS-485 A+
	8	Green	RS-485 B-

P3 WG Input Port

Application	Wire	Color	Description
———	1		———
———	2		———
———	3		———
WG	4	Blue	WG DATA 1
	5	Green	WG DATA 0
Power	6	Red	DC 12V
	7	Black	DC 0V (GND)

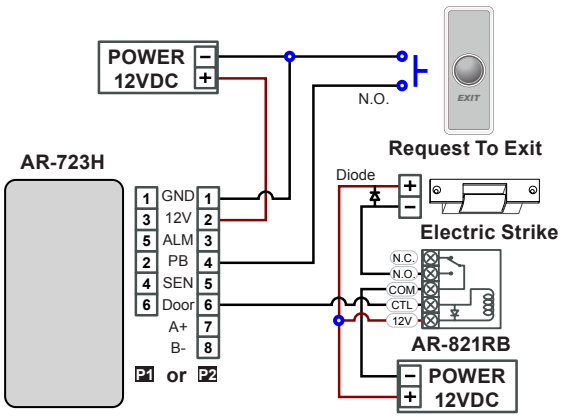
P4 TTL Cable (Optional)

Application	Wire	Color	Description
TTL	1	Yellow	TX
	2	White	TE
	3	Orange	RX
———	4		———
———	5		———
Power	6	Red	DC 12V
	7	Black	DC 0V (GND)

- **When update firmware or set function for standalone model, please order P4.**
- **Please unplug P3 cable before using P4 cable.**

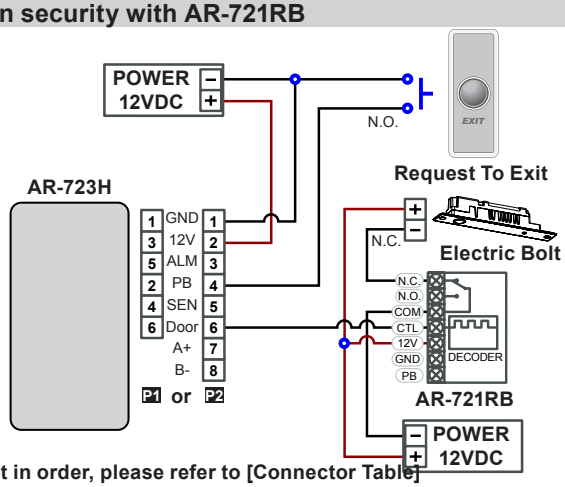
Diagram

Connect to Electric Strike



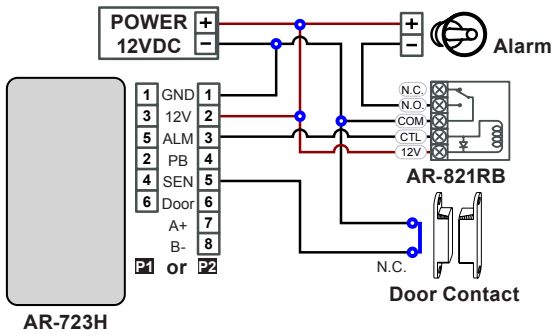
※ P1 are not in order, please refer to [Connector Table]

Strengthen security with AR-721RB



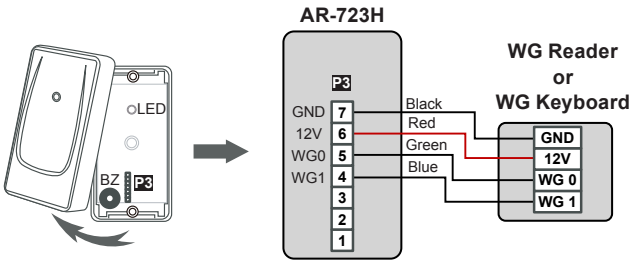
※ P1 are not in order, please refer to [Connector Table]

Connect to Door Contact and Alarm



※ P1 are not in order, please refer to [Connector Table]

Connect to Reader or Keyboard



- Please unload the cover before plug in P3 cable.
- If you need to use P4 cable, unplug P3 cable and then plug in P4 cable.

Access Controller

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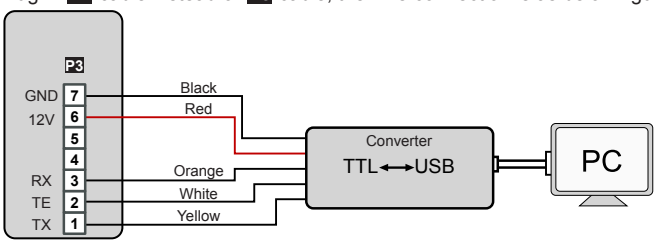
About Master Card

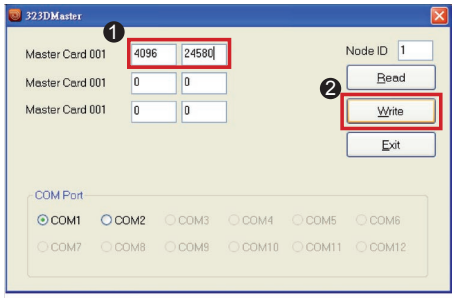
MASTER CARD Setting for Stand-Alone

- Plug in P4 cable instead of P3 cable, the wire connection is as below figure. After connection, then have power transmission to controller.



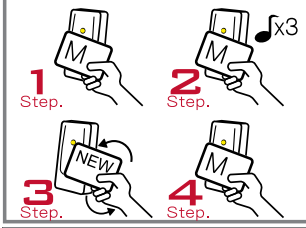
- Use the MASTER CARD software

323DMaster



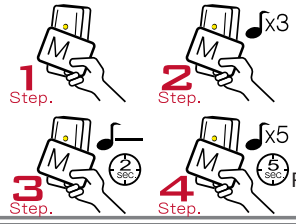
- Input the MASTER CARD number, and press [Write].
- Cut off and then transmit the power, the master card number will be activated.
- Present the card, and the reader will flash green light 3 times and sound 3 beeps. Then the card becomes MASTER CARD and accesses programming mode.If MASTER CARD is presented again, it will exit programming mode.

Adding Tag



1. Present Master Card
2. After 3 short beeps [Access programming mode]
3. Present one new card at a time
4. Present Master Card [Exit programming mode]

Deleting All Tags



1. Present Master Card
2. After 3 short beeps [Access programming mode]
3. 1 long warning beep after 2sec.
4. 5 short beeps after 5sec: cards cleared

P.S. Once MASTER CARD is presented after one warning beep, all card data will be cleared.

Operation process

A. Enter/ Exit Program Mode

- **Enter the program mode**

  Input *123456# or *PPPPPP#

  [e.g.] The Default Value= 123456, if already changed the Master Code= 876112, input *876112# → program mode accessed

- **Exit the program mode**

  Input * #

- **Master Code modification**

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

  [e.g.] Set the Master code to be 876112, input *123456# → 09*876112876112#

B. Set up the password [Only for connect to external K-series reader]

- **M4/M8: Individual pass code**

  Card or PIN: Access programming mode → 12*UUUUU*PPPP# [e.g. User address: 00001 and pass code: 1234, input 12*00001*1234#]

  Card and PIN: Access programming mode → 13*UUUUU*PPPP# [e.g. User address: 00001 and pass code: 1234, input 13*00001*1234#]

- **M6: Public pass word**

  Card or PIN: Access programming mode → 15*PPPP# [Input 4-digit pass code, default value: 4321]

  Card and PIN: Access programming mode → 17*PPPP# [Input 4-digit pass code, default value: 1234; PPPP=0000: change into Card Only]

C. Anti-pass-back(M4/M8)

Usually, anti-pass-back is commonly applied to parking areas in order to prevent from multi-entry with one card at a time, or to situations need access and exit monitor.

- **Enable controller**

  Access programming mode → 20*DDD# [128= Anti-pass-back(0=Disable; 1=Enable)/ 064=Access/Exit(0=Exit; 1=Access).]

  [e.g.] Enable Anti-pass-back, and set to Exit door= (128 x 1) + (064 x 0) = 128

  Access programming mode → 20*128# (Please refer to function default value for details.)

- **Enable card**

  Access programming mode → 26*SSSSS*EEEEE*N#

  [SSSSS= User address start; EEEEE= User address end; N=0(control)/ 1(Not control)/ 2(reset)]

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

  [e.g.] No. 154 enable the anti-pass-back, and induction into the door has not been induced to leave. When he represent into the door will become invalid , then he needs to set the reset. Access programming mode → 26*00154*00154*2# → Reset

D. Lift control

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

- **Enable**

  Access programming mode → 24*002# [002= enable lift control]

- **Single floor**

  Access programming mode → 27 * UUUUU * FF #

  UUUU=User Address FF=Floor number (01~32 floor)

  [e.g.] User address NO. 45, allow to access the 24th floor: 27 * 00045 * 24 #

- **Multi floors**

  Access programming mode → 21 * UUUUU * S * FFFFFFFF #

  [UUUUU=User address S: 4 sets of lift control (Input: 0~3) FFFFFFFF: 8 floors setting (F=0=Disable, F=1=Enable)

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

  Access programming mode → 21 * 00168 * 0 * 00100000 # → 21 * 00168 * 2 * 00001000 #

Set	Floor/ Stop							
	F	F	F	F	F	F	F	F
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

E. Setting Up the Arming [Only for connect to external K-series reader]

- **Alarm 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/Disable Arming status (for M4/M8; Factory default armingcode is: 1234) :**

Standby Mode

After door open

The normal procedure to open door → **Input 4 digit arming code** → #

Do not open the door

* → **Input 4 digit arming code** → **Present valid card**

Enter Program Mode

Enable: Access programming mode → * * #

Disable: Access programming mode → * #

※ **[The normal procedure to open door] can refer to [Access Mode].**

Function Default Value

20 * DDD # ※Default Value

Function	Selection		Value	Application
Attendance	※0: Yes	1: No	001	Networking
Auto Re-lock	※0: Disable	1: Enable	002	Networking/Stand-Alone
Auto Open	※0: Disable	1: Enable	004	Networking/Stand-Alone
Door open button input	0: Disable	※1: Enable	016	Networking/Stand-Alone
Master Controller of Network	※0: Slave	1: Mater	032	Networking
Access/Exit	※0: Exit	1: Access	064	Networking
Anti-pass-back	※0: Disable	1: Enable	128	Networking

24 * DDD # ※Default Value

Function	Selection		Value	Application
Auto-open door without cards at auto open zone	※0: Disable	1: Enable	001	Networking/Stand-Alone
Alarm Output/ Lift Control	※0: Alarm Output	1: Lift Control	002	Networking/Stand-Alone
Stop Alarm by door close or by push button	0: None	※ 1: Yes	064	Networking/Stand-Alone

28 * DDD # ※Default Value

Function	Selection		Value	Application
Dual Door Control	※0: Disable	1: Enable	064	Networking/Stand-Alone
Force Open Alarm Output	※0: Disable	1: Enable	128	Networking/Stand-Alone

Selection= 0(none value)/ 1(1 x each value)

[e.g.] DDD value of Enable "Auto Open" + "Exit by Push Button + "Anti-pass-back"

=(0x1)+(0x2)+(1X4)+(1x16)+(0x32)+(0x64)+(1x128)=148;

As a result of that, the command will be 20 * 148 #

Mode4 / Mode6 / Mode8

Mode	Networking/ Stand-Alone	User Capacity	Access Mode	Auto-show Duty time	Event log Capacity	120 Holidays	Anti force	Time Zone	Lift Control	Anti-pass-back
M4	Networking/ Stand-Alone	1,024	1.Card only 2.Card and PIN (4-digit PIN)+ # 3.Card or User address (5-digit) + Individual PIN (4-digit individual PIN) + #	Yes	1,200	Yes	Yes	No	32	Yes
M6	Stand-Alone	65,535	1.Card only 2.Card and PIN (4-digit public PIN= Arming PWD)+ # 3.Card or PIN (4-digit public PIN= Duress code)	No	No	No	No	No	No	No
M8	Networking/ Stand-Alone	1,024	1.Card only 2.Card and PIN (4-digit individual PIN)+ # 3.Card or PIN (4-digit individual PIN)	Yes	1,200	Yes	Yes	No	32	Yes

※ **Mode 6,** the number of users up to 65535, since it reads **CARD CODE**(5 digits) only, unlike that Mode4/Mode8 read **SITE CODE** and **CARD CODE**(10 digits).
If Access Mode setting to use the PIN, it need to external the K-series Readers.

Factory Reset by its commands

- **When the device is stand-alone (not networking)**

Access programming mode → 20 * 016 # → 24 * 064 # → 26 * 00000 * 01023 * 1 # → 28 * 000 # → 29 * 29 * #

※Note: After the Master Code is changed, factory reset doesn't restore the Master Code back to 123456.

Access Controller

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Command List

Function	Command	Description	Mode
Entering programming mode	* PPPPPP #	PPPPPP=Master Code, default value=**123456**	M4/M6/M8
Exiting programming mode	* #		M4/M6/M8
Exiting programming mode and enabling arming status	* * #		M4/M8
Node ID setting (Connecting to 716E	00 * NNN #	NNN=Node ID, range: 001~254	M4/M8
Node ID setting (Connecting to PC directly without via 716E)	00 * NNN * VVV * nnn #	NNN=Node ID of Access Controller, VVV=Virtual 716E Node ID, nnn=Door number; range:001~254	M4/M8
Mifare tag / card format (Optional)	01 * N #	N: 0=ISO14443A; 1=ISO14443B; 2=ISO15693; 3=I Code1; 4=I Code2 PS.1. Please select the compliance,first. 2. Make sure reader and card using the same compliance.	M4/M8
Door relay time setting	02 * TTT #	TTT=Door relay time 000= Output constantly 001~600=1~600 sec. 601~609=0.1~0.9 sec.	M4/M6/M8
Alarm relay time setting	03 * TTT #	TTT=Alarm relay time 000= Output constantly 001~600=1~600 sec.	M4/M6/M8
Control mode setting	04 * N #	N=Mode 4=Mode4; 6=Mode6; 8=Mode8	M4/M6/M8
Arming delay time setting	05 * TTT #	TTT=Alarm relay time 001~600=1~600 sec.	M4/M6/M8
Alarm delay time setting	06 * TTT #	TTT=Alarm delay time 001~600=1~600 sec.	M4/M6/M8
Master card setting	07 * SSSSS * EEEEE #	SSSSS-EEEEE=00000-01023 (00000-03000 for AR-725H); SSSSS=Starting user address; EEEEE=Ending user address	M4/M8
Auto-open time zone setting	08 * N * HHMMhhmm * 7123456H #	N= 0(1st time zone) / 1(2nd time zone) HHMM= Starting time; hhmm= ending time (i.e.: 08301200=08:30 to 12:00) 7123456H= 7 days of week (Sun/Mon/Tue/Wed/Thu/Fri/Sat)+ Holiday (H= 0: disable; 1: enable); Holidays establish by the software.	M4/M6/M8
Master code setting	09 * PPPPPPRRRRRR #	PPPPPP=New master code RRRRRR=Repeat the new master code	M4/M6/M8
Setting — **Suspend tag(M6)**	10 * SSSSS * EEEEE #	* =Suspend 9 =Delete;	M4/M6/M8
Setting — **Delete tag(M4)**	10 * SSSSS 9 EEEEE #	SSSSS=Starting user address, EEEEE=Ending user address	M6
Set a sequence of cards as "read and access"	11 * SSSSS * EEEEE #	SSSSS=Starting card number; EEEEE=Ending card number	M4/M8
Active the suspended cards	11 * SSSSS * EEEEE #	SSSSS=Starting user address; EEEEE=Ending user address	M4/M8
Set the cards as Card mode OR PIN mode by user address	12 * UUUUU * PPPP #	Access mode: **Card or PIN**; UUUUU=user address; PPPP=4-digit pass code 0001~9999	M4/M8
Set the cards as Card AND PIN mode by user address	13 * UUUUU * PPPP #	Access mode: **Card and PIN**; UUUUU=user address; PPPP=4-digit pass code 0001~9999	M4/M6/M8
M4: Duress code setting **M6: Public PIN setting** (Card or PIN)	15 * PPPP #	PPPP=4-digit pass code (default value=**4321**) P.S. Duress code will be unavailable and become a public PIN at access mode "**Card or PIN**" of **M6**	M4/M8
Card number modification	16 * UUUUU * SSSSSCCCCC #	UUUUU= User address; SSSSS=5-digit site code; CCCCC=5-digit card code	M4/M6/M8
M4: Arming pass code setting **M6: Public PIN setting** (Card and PIN)	17 * PPPP #	PPPP=4-digit pass code (default value=**1234**; disable Arming PWD=**0000**) P.S. Arming PWD code will be unavailable and become a public PIN at access mode "**Card PIN**" and of **M6**	M4/M6/M8
Door open waiting time	18 * TTT #	TTT=Door open waiting time: 001~600=1~600 sec.; default value: 15 sec.	M4/M8
Set the card by induction	19 * UUUUU * QQQQQ #	UUUUU=User address; QQQQQ=Card quantity(**00001**=Continuously inducting)	M4/M6/M8
Reader additional setting	20 * DDD #	Please refer to function default value for details.	M4/M6/M8
Lift control setting: multi-doors	21 * UUUUU * S * FFFFFFFF #	UUUUU=User address, S=4 sets of lift control(0~3); FFFFFFFF=8 assigned floor (F=0: Disable, 1: Enable)	M4/M8
Add/Delete tag by induction (M6 only)	22 * N #	N=0(Delete tag); N=1(Add tag)	M6
AR-401ROsite number dip switch	23 * NNN * TTT #	NNN=site number, TTT= relay time: 000~600=1~600 sec.	M4/M8
Controller parameter setting	24 * DDD #	Please refer to function default value for details.	M4/M6/M8
Controller time clock setting	25 * YYMMDDHHmmss #	YYMMDDHHmmss: Year/ Month/ Day/ Hour/ Min./ Sec.	M4/M6/M8
Anti-pass-back (Enable user)	26 * SSSSS * EEEEE * N #	SSSSS=Starting user address; EEEEE=Ending user address; N=0/Enable; N=1/Disable; N=2/Initial	M4/M8
Single floor setting	27 * UUUUU * FF #	UUUUU=User Address; FF=Floor (01~32 floor)	M4/M8
Dual door control/ Active or inactive arming for force open	28 * DDD #	Please refer to function default value for details.	M4/M6/M8
Delete all tags	29 * 29 * #		M4/M6/M8
Enable the security trigger signal (with AR-721RB)	34 * 064 # **(Enable)** 34 * 000 # **(Disable)**	To Change the "Door Lock" become the security trigger signal, when controller is connected with AR-721RB.	M4/M6/M8