SOYAL®
ACCESS CONTROL SYSTEM

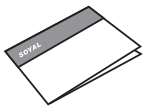
# AR-723 (H)

V130311

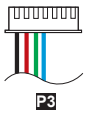
## Content & Feature

1 Product

2 User Guide

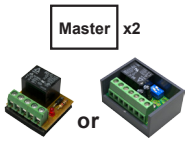


3 Terminal Cables




4 Optional

AR-WG-KEYBOARD



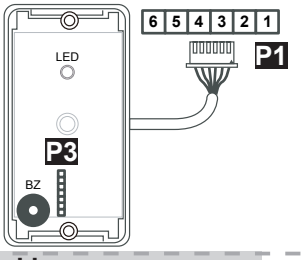

AR-821-RB AR-721-RB

5 Feature

- 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

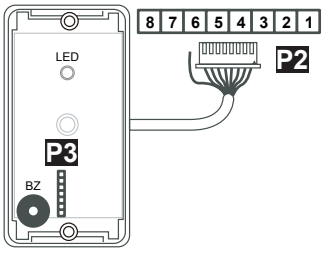
### Stand-Alone [NO lift control]




**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-KEYBOARD Socket**

| 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) |

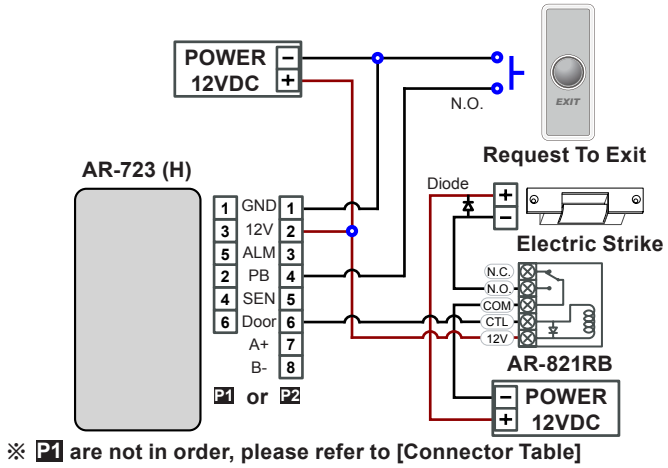
**P4 TTL Cable (Optional)**

| 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.**

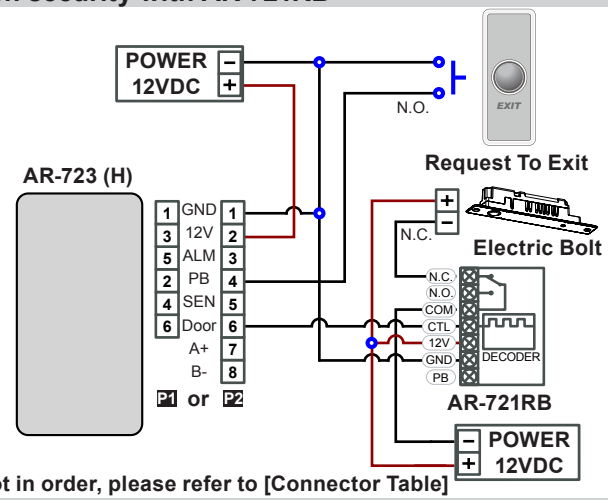
## Diagram

### Connect to Electric Strike



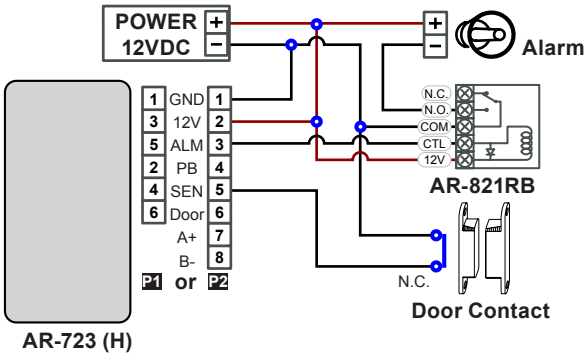

※ **P1 are not in order, please refer to [Connector Table]**

### Strengthen security with AR-721RB



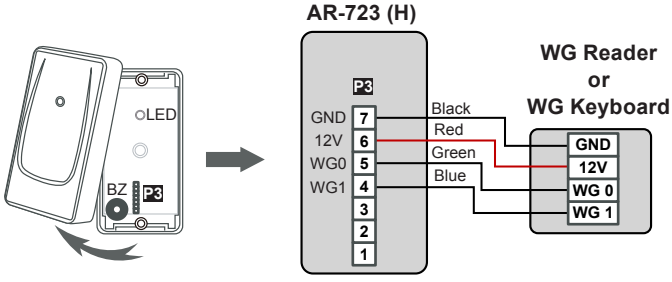

※ **P1 are not in order, please refer to [Connector Table]**

### 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.

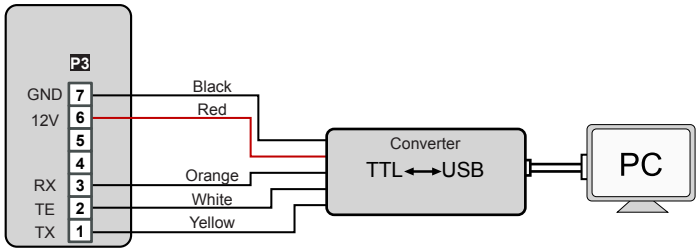
# Access Controller

V130311

## About Master Card

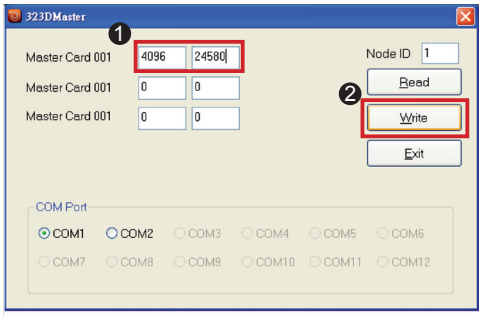
### MASTER CARD Setting for Stand-Alone

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



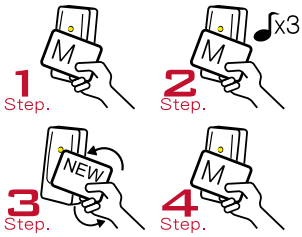

- Use the MASTER CARD software

323DMaster



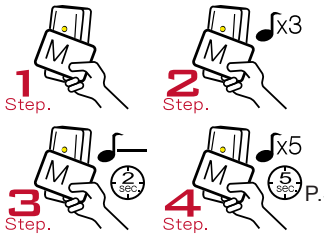

- Input the MASTER CARD number, and press [Write].
- Cut off and then transmit the power, the master card number will be activated.
- Present the card, and the reader will flash green light 3 times and sound 3 beeps. Then the card becomes MASTER CARD and accesses programming mode.If MASTER CARD is presented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

### Adding Tag




1. Present Master Card
2. After 3 short beeps [Access programming mode]
3. Present the new card or cards one by one till finished the adding.
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. 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 #

| 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 |

- **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 #

## D. 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 | Do not open the door |
| The normal procedure to open door → **Input 4 digit arming code** → # | * → **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 |

**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<br>2.Card and PIN (4-digit PIN)+ #<br>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<br>2.Card and PIN (4-digit public PIN= Arming PWD)+ #<br>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<br>2.Card and PIN (4-digit individual PIN)+ #<br>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

V130311

## 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<br>PS.1. Please select the compliance,first.<br>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<br>001~600=1~600 sec.<br>601~609=0.1~0.9 sec. | M4/M6/M8 |
| **Alarm relay time setting** | 03 * TTT # | TTT=Alarm relay time 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);<br>SSSSS=Starting user address; EEEEE=Ending user address | M4/M8 |
| **Auto-open time zone setting** | 08 * N * HHMMhhmm * 6543217H # | N= 0(1st time zone) / 1(2nd time zone)<br>HHMM= Starting time; hhmm= ending time<br>(i.e.: 08301200=08:30 to 12:00)<br>6543217H= 7 days of week (Sat/Fri/Thu/Wed/Tue/Mon/Sun)+ Holiday<br>(F= 0: disable; 1: enable); Holidays establish by the software. | M4/M6/M8 |
| **Master code setting** | 09 * PPPPPPRRRRRR # | PPPPPP=New master code<br>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;<br>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;<br>PPPP=4-digit pass code 0001~9999 | M4/M6/M8 |
| **M4: Duress code setting**<br>**M6: Public PIN setting** (Card or PIN) | 15 * PPPP # | PPPP=4-digit pass code (default value=**4321**)<br>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;<br>CCCCC=5-digit card code | M4/M6/M8 |
| **M4: Arming pass code setting**<br>**M6: Public PIN setting** (Card and PIN) | 17 * PPPP # | PPPP=4-digit pass code ( default value=**1234**; disable Arming PWD=**0000**)<br>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 (M4)** | 19 * UUUUU * QQQQQ # | UUUUU=User address;<br>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;<br>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)**<br>34 * 000 # **(Disable)** | To Change the "Door Lock" become the security trigger signal, when controller is connected with AR-721RB. | M4/M6/M8 |