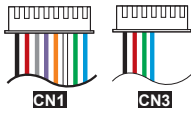


## Content & Feature

**1** Product



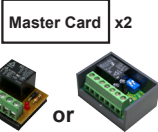
**2** Terminal Cables



**3** Optional



AR-WG-KEYBOARD

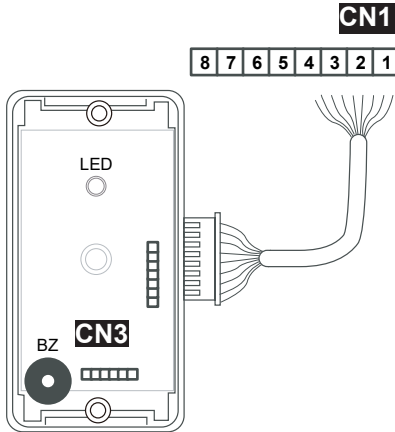


AR-821-RB or AR-721-RB

**4** Feature

- Slim design makes installation easy
- MASTER CARD for adding / deleting tags
- Set up parameters and user tags by external WG Keyboard
- Built-in security digital opening signal
- Built-in Watchdog to prevent from hanging up

## Connector Table



**Networking: CN1 8 PIN**

(RS-485)

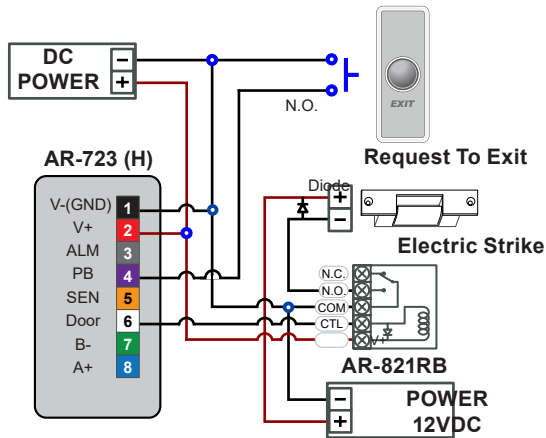
| Application  | Wire | Color  | Description                                    |
|--------------|------|--------|--|
| Power        | 1    | Black  | DC 0V (GND)                                    |
|              | 2    | Red    | DC 9-24V                                       |
| Alarm Relay  | 3    | 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    | Green  | RS-485 B-                                      |
|              | 8    | Blue   | RS-485 A+                                      |

**CN3 WG-READER or KEYBOARD Socket**

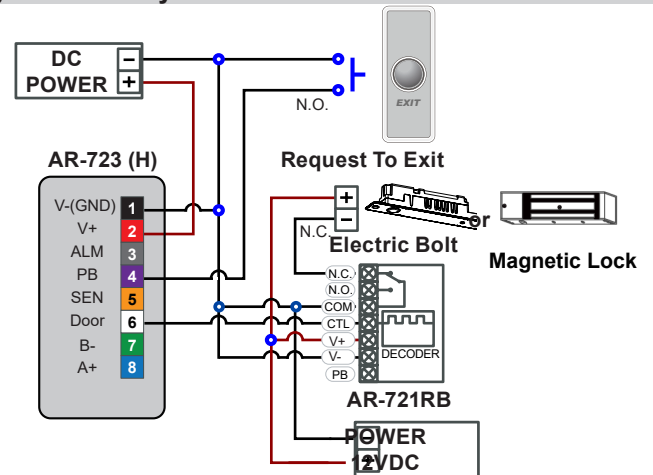
| Application | Wire | Color | Description |
|-------------|------|-------|-------------|
|             | 1    |       |             |
|             | 2    |       |             |
|             | 3    |       |             |
| WG          | 4    | Blue  | WG DATA 1   |
|             | 5    | Green | WG DATA 0   |
| Power       | 6    | Red   | DC 9-24V    |
|             | 7    | Black | DC 0V (GND) |

## Diagram

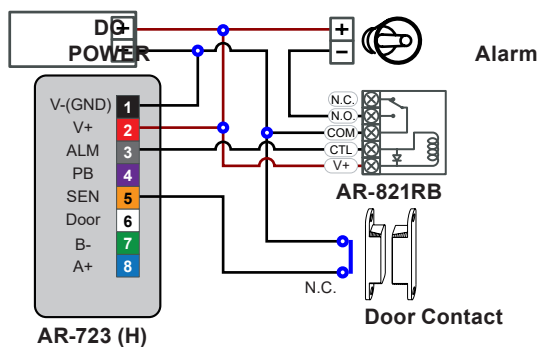
### Connect to Electric Strike



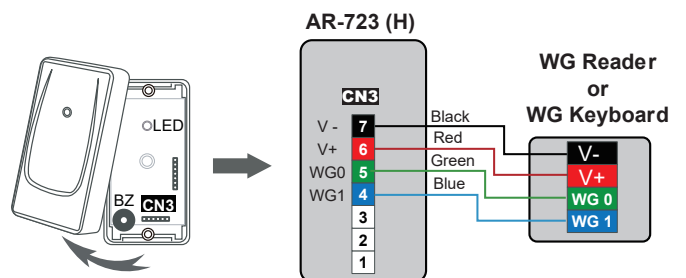
### Strengthen security with AR-721RB



### Connect to Door Contact and Alarm



### Connect to Reader or Keyboard

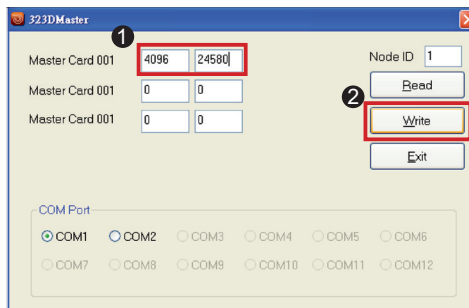


• Please unload the cover before plug in AR-WGKEYBOARD.

## About Master Card

### MASTER CARD Setting for Stand-Alone

AR-723 (H)

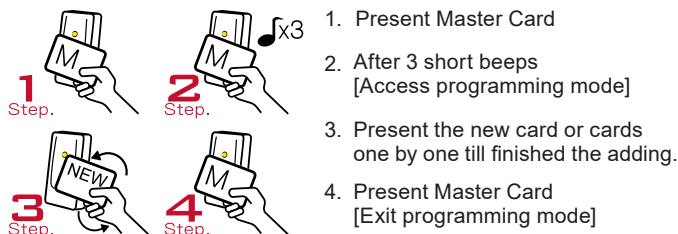


- Use the MASTER CARD software

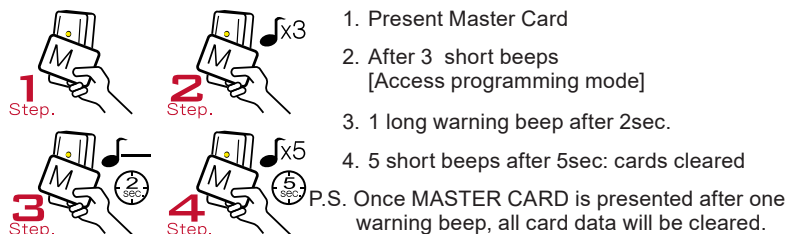


- Input the MASTER CARD number, and press [Write].
- Cut off and then transmit the power, the master card number will be activated.
- Present the card, and the reader will flash green light 3 times and sound 3 beeps. Then the card becomes MASTER CARD and accesses programming mode. If MASTER CARD is presented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

### Adding Tag



### Deleting All Tags



## 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 #

- Multi floors

Access programming mode → 21 \*UUUUU \*S \*FFFFFFF #

[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 |

## 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) :

|   |  |
|---|--|
| <b>Standby Mode</b>   |  |
| 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 |
| <b>Enter Program Mode</b>   |  |
| Enable: Access programming mode → * * #                           | Disable: Access programming mode → * #             |

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

## Function Default Value

| 20 * DDD #                   | 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 #                                     | 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 #              | 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/<br>Stand-Alone | User<br>Capacity | Access Mode  | Auto-show<br>Duty time | Event log<br>Capacity | 120<br>Holidays | Anti<br>force | Time<br>Zone | Lift<br>Control | Anti-pass-<br>back |
|------|----------------------------|------------------|--|------------------------|-----------------------|-----------------|---------------|--------------|-----------------|--------------------|
| M4   | Networking/<br>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/<br>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 AR-723 (H)

| 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;<br>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-EEEE=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 * HHMMhmm * 6543217H # | N= 0(1st time zone) / 1(2nd time zone)<br>HHMM= Starting time; hmmm= 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 * PPPPPRRRRRR #            | PPPPPP=New master code<br>RRRRRR=Repeat the new master code   | M4/M6/M8   |
| Setting   | Suspend tag(M6)               | 10 * SSSSS * EEEEE #  | * =Suspend 9 =Delete;                                  |
|   | Delete tag(M4)                | 10 * SSSSS 9 EEEEE #  | SSSSS=Starting user address, EEEEE=Ending user address |
| 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: <b>Card or PIN</b> ; 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: <b>Card and PIN</b> ; 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 * SSSSSCCCC #      | 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 * QQQQ #           | UUUUU=User address;<br>QQQQ=Card quantity(0001=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<br>(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)           | Change the "Door Lock" become the security trigger signal when connecting with AR-721RB.  | M4/M6/M8   |
|   | 34 * 000 # (Disable)          |   |  |

**FCC ID: 2ACLEAR-723H**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. The device has been evaluated to meet general RF exposure statement.

The device can be used in portable exposure condition without restriction

Warning: Changes or modifications to this unit not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.