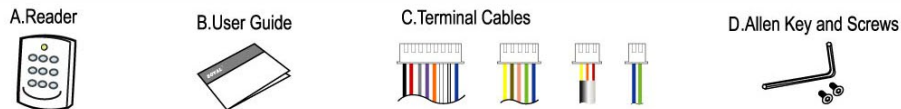


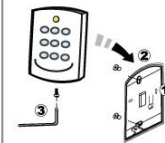
Contents



Installation

Steps

- Using a screwdriver, screw the mounting plate to the wall.
- Pull cable ends through the access hole in the mounting plate.
- Attach body to the mounting plate and install screw (supplied) into the hole at the bottom with the Allen Key (supplied).
- Apply power. Green and red LED will light up at the same time, and a beep sound.



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 cause 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

125KHz

P1 Table 1 - Connector P1 Color Coding

Wire Application	Wire	Color	Description
Door Relay	1	Blue White	(N.O.)DC24V1Amp
	2	Purple White	(N.C.)DC24V1Amp
	3	White	(COM)DC24V1Amp
Door Sensor	4	Orange	Negative Trigger Input
Exit Switch	5	Purple	Negative Trigger Input
Alarm Output	6	Grey	Transistor Output (Open Collector Active Low)
	7	Thick Red	DC Power 12V
Power	8	Thick Black	DC Power 0V

P3 Table 3-Connector P3 Color Coding (Tamper Switch)

Wire Application	Wire	Color	125KHz	13.56MHz
Tamper Switch	1	Red	N.C.	COM
	2	Orange	N.O.	N.O.
	3	Yellow	COM	N.C.

P4 Table 4 - Connector P4 Color Coding

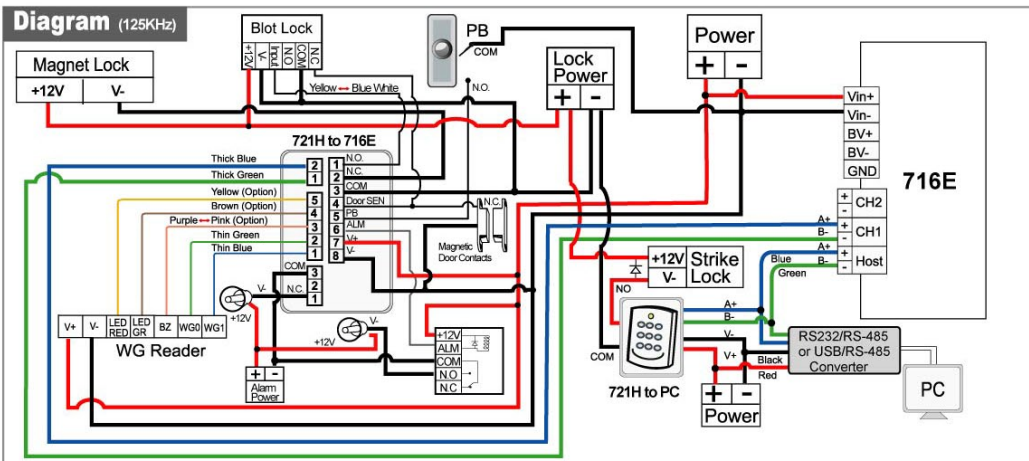
Wire Application	Wire	Color	Description
Networking Module	1	Thick Green	RS-485(B)
	2	Thick Blue	RS-485(A+)

P2 Table 2 - Connector P2 Color Coding (Wiegand Read Head)

Wire Application	Wire	Color	Description
Wiegand	1	Thin Blue	Wiegand DAT:1 Input
	2	Thin Green	Wiegand DAT:0 Input
Beeper	3	Pink	Beeper Output 5V/100mA, Low
LED	4	Brown	LED Green Output 5V/20mA, Max
	5	Yellow	LED Red Output 5V/20mA, Max

P5 Excluded : BB-PH-2.0-R-200

Wire Application	Wire	Color	Description
3-PIN Connector	1	Black	GND.
	2	White	Duress
	3	Purple	Arming



Command List

Entering programming mode	*123456# or [Master Code#] (If already changed)	M4/M6/M8
Exiting programming mode	* #	M4/M6/M8
Exiting programming mode and enabling arming status	** #	M4/M6/M8
Node ID setting	00*NNN# (Node ID: 001~254)	M4/M6/M8
Door relay time setting	02*TTT# (Door relay time: 000=Normal open)	M4/M6/M8
	(Door relay time: 001~600=1~600 sec.)	
	(Door relay time: 601~609=0.1~0.9 sec.)	
Alarm relay time setting	03*TTT# (Door relay time: 000=Normal open)	M4/M6/M8
	(Door relay time: 001~600=1~600 sec.)	
Control mode setting	04*N# (Mode: 4/6/8)	M4/M6/M8
Arming delay time setting	05*TTT# (Arming delay time: 001~600=1~600 sec.)	M4/M6/M8
Alarm delay time setting	06*TTT# (Arming delay time: 001~600=1~600 sec.)	M4/M6/M8
Master card setting	07*SSSSS*EEEE# (Input a user or a batch of user as the master card: 00000~01023) SSSSS=Starting user address · EEEEE=Ending user address	M4/M8
Auto-open zone setting	08*N*HHMMHHMM*111111#	M4/M6/M8
	N: 2 sets of auto-open zone (0: 1st set; 1: 2nd set)	
	HHMMHHMM=Starting time to ending time (i.e.: 08301200=08:30 to 12:00) 111111: 7 days of week (Sun/Mon/Tue/Wed/Thu/Fri/Sat) (0: disable; 1: enable)	
Master code setting	09*PPPPPPRRRRR# PPPPP=New master code	M4/M6/M8
	RRRRR=Repeat the new master code	
Suspend or delete tag (* = Suspend) (9 = Delete)	Suspend: 10*SSSSS*EEEE#	M4/M6/M8
	Delete: 10*SSSSS9EEEE#	
	SSSSS=Starting user address · EEEEE=Ending user address	
Recover tag	11*SSSSS*EEEE# recover the paused tag SSSSS=Starting user address · EEEEE=Ending user address	M4/M8
Setting up a batch of user to access by card only (M6 only)	11*SSSSS*EEEE# SSSSS=Starting user address · EEEEE=Ending user address	M6
Setting up the PWD/PIN (Access mode: Card or PIN)	12*UUUUU*PPPP# UUUUU= User address PPPP=4-digit individual PWD	M4/M8
Setting up the PWD/PIN (Access mode: Card and PIN)	13*UUUUU*PPPP# UUUUU= User address PPPP=4-digit individual PWD	M4/M8
Arming output time setting	14*TTT# (Arming output time: 001~250=1~250 sec.)	M4/M6/M8
M4/M8: Duress code setting M6: Public PIN setting (Card or PIN)	15* PPPP# PPPP=4-digit individual PWD P.S. Duress code will be unavailable and become a public PIN at access mode "Card or PIN" of M6	M4/M6/M8
Card number modification	16*UUUUU*SSSSSCCCC# UUUUU= User address · SSSSS=5-digit site code CCCCC=5-digit card code	M4/M8
M4/M8: Arming PWD setting M6: Public PIN setting (Card and PIN)	17* PPPP# PPPP=4-digit individual PWD (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 close time	18*TTT# (Door close time: 001~600=1~600 sec.; default value: 15 sec.)	M4/M6/M8
Adding tag	19*UUUUU*QQQQ# UUUUU=User address · QQQQ=Pieces of card	M4/M8
Factory setting-1(Function default value)	20*DDD# (Please refer to function default value for details)	M4/M6/M8
Lift control setting: multi-doors	21*UUUUU*S*FFFFFFF# UUUUU=User address	M4/M8
	S: 4 sets of lift control (Input: 0~3) · FFFFFFFF: 8 floors/stop setting (0=Disable, 1=Enable)	
Add/Delete tag by RF (M6 only)	22*N# N=0=Delete tag · N=1=Add tag	M6
Relay time of lift controller setting	23*NNN*TTT# N=Node ID of lift controller · TTT= relay time: 000~600=1~600 sec.	M4/M8
Factory setting-2 (Function default value)	24*DDD# (Please refer to function default value for details)	M4/M6/M8
Real time clock setting (Stand-Alone)	25*YYMMDDHHmmSS# YYMMDDHHmmSS: Year/Month/Day/Hour/Min./Sec.)	M4/M6/M8
Anti-pass-back (Enable user)	26*SSSSS*EEEE*N# SSSSS=Starting user address · EEEEE=Ending user address N=0=Disable; N=1=Enable; N=2=Initial	M4/M8
Lift control setting: single door	27*UUUUU*FF# UUUUU=User Address · FF=Floor number (01~32 floor/stop)	M4/M6/M8
Force open alarm setting	28**NNN# NNN=000=Disable · NNN=128=Enable	M4/M8
Delete all tag	29*29#	M4/M6/M8

Function Default Value				
Function	Option		Value	Application
	0	1		
Time Attendance	Yes*	No	001	Networking
Auto Re-lock	Disable*	Enable	002	Networking/Stand-Alone
Auto Open	Disable*	Enable	004	Networking/Stand-Alone
Exit by Push Button	Disable*	Enable	016	Networking/Stand-Alone
Master Reader of Network	Slave*	Master	032	Networking
Enter/Exit Reader	Outdoor*	Indoor	064	Networking
Anti-pass-back	Disable*	Enable	128	Networking

Remarks:
*: default value
Option 0= none value
Option 1= 1 x each value (i.e. DDD value of Enable "Auto Open" + "Exit by Push Button + "Anti-pass-back" =004+016+128=148; As a result of that, the command will be 20*148#.)

B - 24*DDD#				
Function	Option		Value	Application
	0	1		
Auto-open door without presenting card at auto open zone	Disable*	Enable	001	Networking / Stand-Alone
Alarm Output/Lift Control	Alarm Output*	Lift Control	002	Networking / Stand-Alone
Stop Alarm by...	None*	Push Button / Door Closed	064	Networking / Stand-Alone
Door bell	Disable*	Enable	128	Networking / Stand-Alone

C - 28*DDD#				
Function	Option		Value	Application
	0	1		
Force Open Alarm Output	Disable*	Enable	128	Networking / Stand-Alone

Programming

A - Entering and Exiting Programming Mode

Entering	Exiting
*123456# or *Master Code# (If already changed)	*#

B - Initial Setup

1. Restoring Factory Settings
Access programming mode *123456# or *Master Code# (If already changed) → 20*000# → 24*000# → 26*0000*01023*2# → 28*000# → 29*29# → Changing the Master Code to default value: 123456 → *# (done)

2. Changing the Master Code
Access programming mode *123456# or *Master Code# (If already changed) → 09*PPPPPPRRRRR# (Input the 6-digit new master code twice)

3. Changing the Node ID of Reader
Access programming mode *123456# or *Master Code# (If already changed) → 00*NNN# (Node ID: 001-254)

C - Setting up the control mode (M4/M6/M8)
Access programming mode *123456# or *Master Code# (If already changed) → 04*N# (Input: 4/6/8)

Mode	M4	M6	M8
Support	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 by PIN 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
Duress	V	X	V
Time Zone	11	X	11
Lift Control	32	X	32
Anti-pass-back	V	X	V

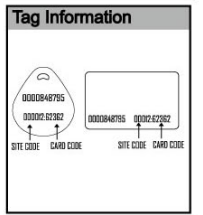
D - Setting up the password

1. Individual PWD (M4/M8)
a. Card or PIN
Access programming mode *123456# or *Master Code# (If already changed) → 12*UUUUU*PPPP# (i.e. User address: 00001 and PWD: 1234, input 12*00001*1234#)

b. Card and PIN
Access programming mode *123456# or *Master Code# (If already changed) → 13*UUUUU*PPPP# (i.e. User address: 00001 and PWD: 1234, input 13*00001*1234#)

2. Public PWD (M6)
a. Card and PIN
Access programming mode *123456# or *Master Code# (If already changed) → 17*PPPP# (Input 4-digit PWD, default value: 1234)

b. PIN only
Access programming mode *123456# or *Master Code# (If already changed) → 15*PPPP# (Input 4-digit PWD)



E - 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.

- Device enable
Access programming mode → 20*128# please refer to "20*DDD#" function default value for additional function value
- Card user enable
Access programming mode → 26*SSSSS*EEEE*1# (i.e. User address from 00001 to 00005 enable the anti-pass-back function: 26*00001*00005*1#)

F - Auto Open Zone
Door will keep opening after first man flashing card. ACC-900 support only two sets of auto-open zone by device setting, but auto-open zone can extend up to 63 sets by connected to ACC-1000.

- Enable/Disable auto open zone
Access programming mode 20*004# please refer to "20*DDD#" function default value for additional function value
- Enable/Disable auto open door without presenting card
Access programming mode 24*001# please refer to "24*DDD#" function default value for additional function value
- Setting up open time
Access programming mode → 08*N*HHMMH*HHMM*111111#
N: 2 sets of auto-open zone (N=0=1st set; N=1=2nd set)
HHMMH*HHMM=staring time to ending time (i.e.: 08301200=08:30 to 12:00)

Adding and Deleting Tag M4/M8

Adding Tag (M4/M8)			Deleting Tag (M4/M8)		
Single Tag	A Batch of Tags		Single Tag	A Batch of Tags	
RF Learn Function	Sequential Tag NO.	Random Tag NO.	Memory Location	Memory Location	Delete All Tags
Access programming mode *123456# or *Master Code# (If already changed) → 19*UUUUU*QQQQQ# UUUUU=5-digit User Address: 00000-01023 QQQQQ: Input 00001 (Only one tag) (i.e. 19*00001*00001) Close Tag into RF Area Present the tag to the controller. OK (Memory location number)	Access programming mode *123456# or *Master Code# (If already changed) → 19*UUUUU*QQQQQ# UUUUU=5-digit User Address: 00000-01023 QQQQQ: Input 5-digit tag units: Enter the quantity of tags to be added. (i.e.: 10 pcs of sequential tag=00010) Close Tag into RF Area Present the tag with the lowest number to the controller. OK (Memory location number)	Access programming mode *123456# or *Master Code# (If already changed) → 19*UUUUU*QQQQQ# UUUUU=5-digit User Address: 00000-01023 QQQQQ: Input 00001 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.	Access programming mode *123456# or *Master Code# (If already changed) → 10*SSSSS9EEEE# 9=Delete SSSSS=starting user address EEEE=ending user address (i.e. Delete User Address 00003=10*00039000003) Done	Access programming mode *123456# or *Master Code# (If already changed) → 10*SSSSS9EEEE# 9=Delete SSSSS=starting user address EEEE=ending user address (i.e. Delete User Address: 00004-00010=10*0004900010) Done	Access programming mode *123456# or *Master Code# (If already changed) → 29*29# Done

M6

Adding Tag (M6)	Deleting Tag (M6)	
Access programming mode *123456# or *Master Code# (If already changed) → 11*SSSSS*EEEE# SSSSS=starting user address=5-digit card code EEEE=ending user address=5-digit card code (i.e. Add a tag with card code 15031= 11*15031*15031) (i.e. Add a batch of tag with card code 15031~15038= 11*15031*15038) <th>Delete Single/A Batch Tag Access programming mode *123456# or *Master Code# (If already changed) → 10*SSSSS*EEEE# or 10*SSSSS9EEEE# SSSSS=starting user address=5-digit card code EEEE=ending user address=5-digit card code (i.e. Delete a tag with card code 15031= 11*15031*15031) (i.e. Delete a batch of tag with card code 15031~15038= 11*15031*15038) <th>Delete All Tag Access programming mode *123456# or *Master Code# (If already changed) → 29*29# Done </th></th>	Delete Single/A Batch Tag Access programming mode *123456# or *Master Code# (If already changed) → 10*SSSSS*EEEE# or 10*SSSSS9EEEE# SSSSS=starting user address=5-digit card code EEEE=ending user address=5-digit card code (i.e. Delete a tag with card code 15031= 11*15031*15031) (i.e. Delete a batch of tag with card code 15031~15038= 11*15031*15038) <th>Delete All Tag Access programming mode *123456# or *Master Code# (If already changed) → 29*29# Done </th>	Delete All Tag Access programming mode *123456# or *Master Code# (If already changed) → 29*29# Done

G - Lift control
Connect with AR-401RO16 to control which floors the user will be able to access.

Device Enable
Access programming mode 24*002# please refer to "24*DDD#" function default value for additional function value

Single floor
Access programming mode → 27*UUUUU*FF#
UUUUU=User Address
FF=Floor number (01-32 floor/stop)

Multi floors
Access programming mode → 21*UUUUU*S*FFFFFFF#
UUUUU=User address
S: 4 sets of lift control (Input: 0-3)
FFFFFFF: 8 floors/stop setting (F=0=Disable, F=1=Enable), Please refer to below floor chart

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

H - Setting up the alarm

1. Conditions:
1. Arming enabled
2. Alarm system connected
Q: How to enable/disable the arming status?
A: By keypad
Enable: Access programming mode → press *#*#
Disable: Access programming mode → press *#*#
By flashing card + Arming PWD
Enable/Disable: Flash card + press 4 digit arming PWD [PPPP#] (default: 1234)

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.

3. Flow chart:

```

    graph TD
        A[Arming setting] --> B[Door Opened]
        B --> C[Alarm system activated]
        C --> D[Alarm system activated]
        D --> E[Arming setting]
        E --> B
    
```

Normal Open: Enable Arming | Arming Delay TM | 1 Door Relay TM | 2 Door Close TM | 3 Alarm Delay TM | 4 Alarm Relay TM

Abnormal Open: Enable Arming | Arming Delay TM | 1 Alarm Delay TM | 2 Alarm Relay TM

Function	Command
Door Relay TM	1 20
Door Close TM	2 18
Alarm Relay TM	4 03
Alarm Delay TM	3 06
Arming Delay TM	05
Force Open	28