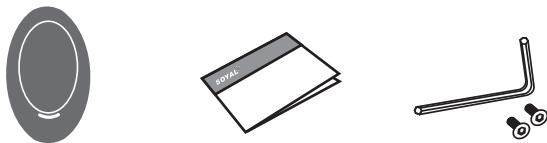


1. AR-737H/U1356 INTRODUCTION

1.1 Contents

- AR-737H/U Device *1
- User Guide *1
- Hexagonal Wrench *1
- Hexagonal Screw *2



1.2 MIFARE

Mifare is the most widely applied contactless smart card technology developed by PHILIPS with ISO standard.

1.3 Function Support

AR-737H/U 1356 adopts PHILIPS high-security proven standard and meets the high performance. (On the mode of 737 platform) Its MIFARE chip equip the read & write function to ensure auxiliary WG reader (AR-737U 1356) or networking reader (AR-737H 1356).

1.4 Specification

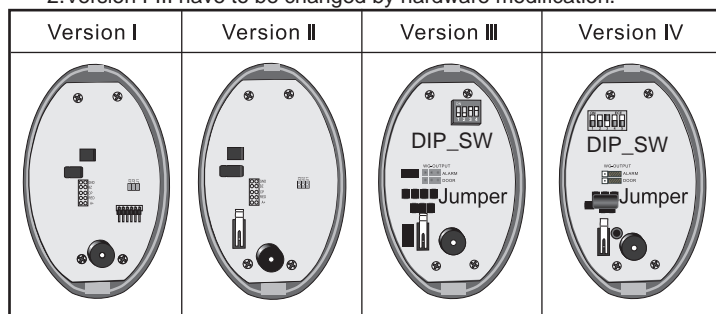
Frequency	13.56MHz
Power Requirement	9-24 VDC
Power Consumption	<1.5W
Communication Interface	RS-485 (737H only), Wiegand (737U only) and OMRON
Baud Rate	9600 bps / 19200 bps (N, 8, 1)
Environment	-20°C ~ +75°C
Compliance	ISO 14443A ISO 14443B ISO 15693
Indicator	A bi-color LED and a beeper
Read / Write	Read / Write
Proximity Reading Range	3-8cm
Supported Tags	Mifare Ultra Light (L10) Mifare Standard (S50) Mifare Plus (P60)
Waterproof	Yes (Option)
Color	Dark Gray
Dimension (mm)	113(L)*71(W)*36(H)
Weight (g)	80
Housing Material	ABS

1.5 Difference in Versions

Mode Version	AR-737U	AR-737H
I	JP3 Open	JP3 Close
II	JP3 Open	JP3 Close
III	6-PIN Jumper select "WG"	6-PIN Jumper select "OUTPUT"
	DIP_SW	DIP_SW
IV	6-PIN Jumper select "WG"	6-PIN Jumper select "OUTPUT"
	DIP_SW	DIP_SW

Note: 1. Version IV & afterward could be adjusted to H or U by dip-switch and 6-pin jumper

2. Version I-III have to be changed by hardware modification.



1.6 Wiegand Format Setting

Output format	J1 (DIP_SW1)	J2 (DIP_SW2)
WG34	Open (OFF)	Open (OFF)
WG26	Close (ON)	Open (OFF)
ABA10	Open (OFF)	Close (ON)
Serial ASCII	Close (ON)	Close (ON)

2. PIN DEFINE

2.1 Wiring of AR-737H/U (Version I)

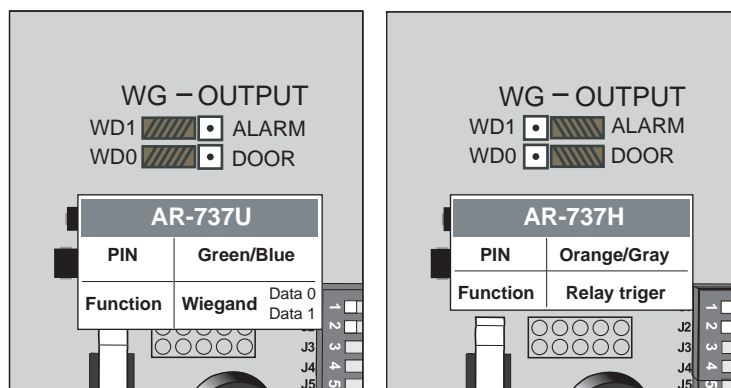
PIN	Description	Color	Function	
1	DC Power Input	Black	GND	
2	DC Power Input	Red	V12	
3	Beeper Control Input (Active low)	Purple	BEEP	
4	WG Data 0	OMRON: Data	Green	Output
5	Card Present Output (Active low)	White	Output	
6	WG Data 1	OMRON: Clock	Blue	Output
7	R-LED control input	Yellow	Input	
8	G-LED control input	Brown	Input	
9	RS-485 A+	Gray	Signal	
10	RS-485 B-	Orange	Signal	

2.1 Wiring of AR-737H/U (Version II & afterward)

PIN	Description	Color	Function		
1	DC Power Input	Black	GND		
2	DC Power Input	Red	V12		
3	Beeper Control Input (Active low)	Purple	BEEP		
4	WG Data 0	OMRON: Data	Door Relay	Green	Output
5	Card Present Output (Active low)	White	Output		
6	WG Data 1	OMRON: Clock	Alarm Relay	Blue	Output
7	R-LED control input	Door Sensor	Yellow	Input	
8	G-LED control input	Egress	Brown	Input	
9	RS-485 A+	Gray	Signal		
10	RS-485 B-	Orange	Signal		

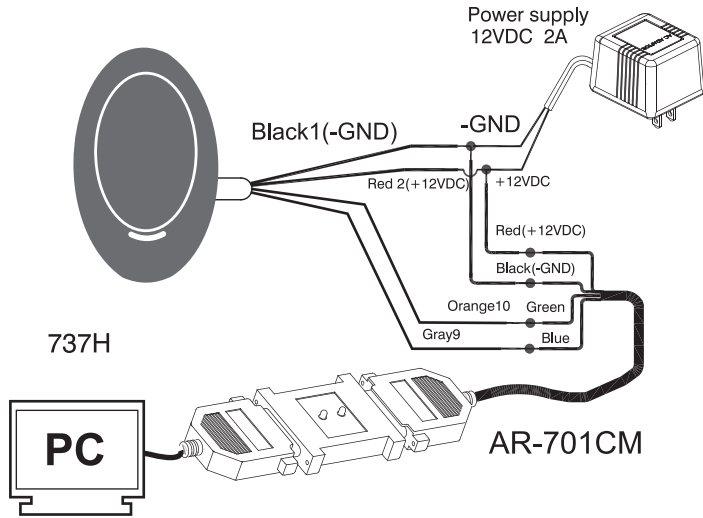
2.3 Adding for Version III & afterward

The version III adds a 6-pin jumper for door&alarm relay driver and WG switching. Its setting should follow the rule below:

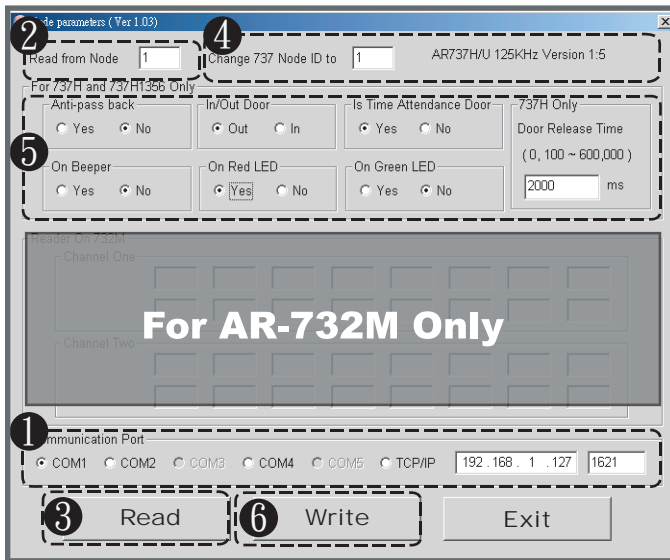


3. INSTALLATION DIAGRAM

3.1.1 AR-737H1356 connection to PC



3.1.2 Software setting from Soyal device tools

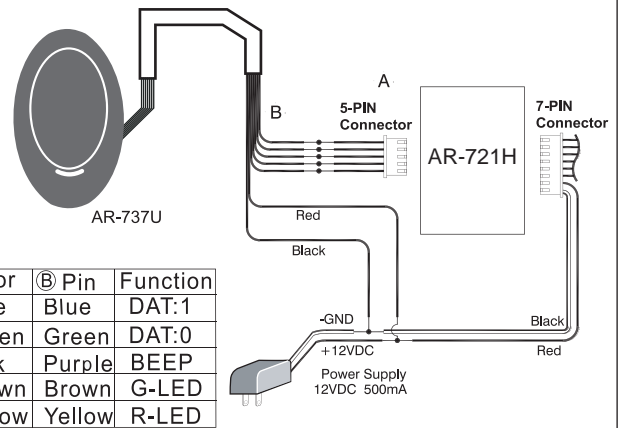


- 1 Select communication port.
- 2 Enter the target AR-737H's Node ID (To ignore Node ID , enter 255)
- 3 Click "Read" to upload parameters from device to Node737 application.
- 4 The screen will show current device parameter and its version, and then key-in the Node ID you want to change.
- 5 Enable or disable the functions of AR-737H.
- 6 Click "write" to download new setting to device.

4. APENDIX

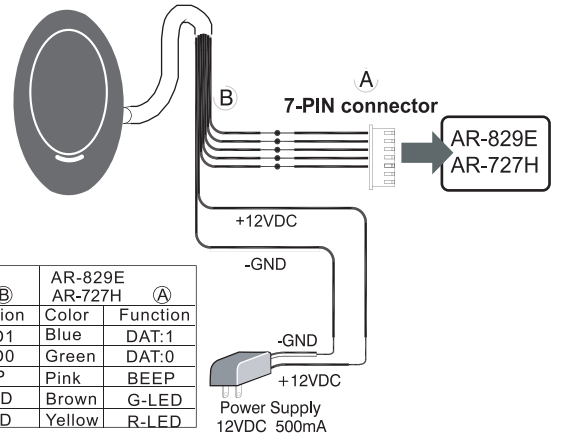
Be sure to record the user number, the user name, the card ID number (card code) and the user code. It's important to keep this information in a secure place. A block user log form has been included for purpose. Do not write on this form; the form is as a photocopy master.

3.2 AR-737U connect to AR-721H



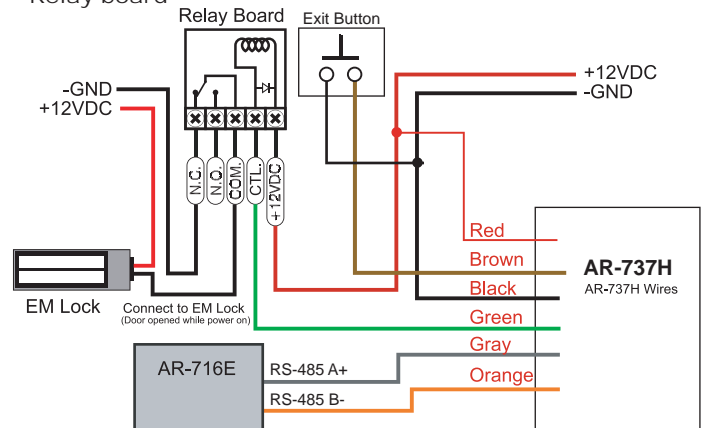
A Pin	Color	B Pin	Function
1	Blue	Blue	DAT:1
2	Green	Green	DAT:0
3	Pink	Purple	BEEP
4	Brown	Brown	G-LED
5	Yellow	Yellow	R-LED

3.3 AR-737U connect to AR-829E, AR-727H



AR-737U 125		AR-829E AR-727H	
Color	Function	Color	Function
Blue	WG D1	Blue	DAT:1
Green	WG D0	Green	DAT:0
Purple	BEEP	Pink	BEEP
Brown	G-LED	Brown	G-LED
Yellow	R-LED	Yellow	R-LED

3.4 AR-737H connect to EM lock & Exit Button with Relay board

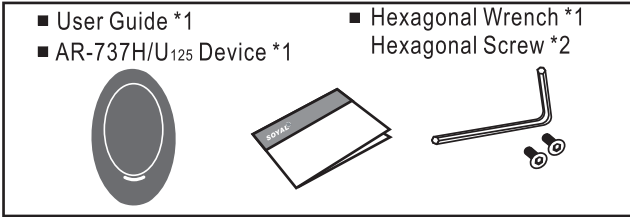


User No.	User Name	Site code : Card code	User Code

1. AR-737H/U₁₂₅ INTRODUCTION

The AR-737H/U₁₂₅ is a proximity reader which allows performing as an auxiliary WG reader (AR-737U₁₂₅) or networking reader (AR-737H₁₂₅)

1.1 Contents



1.2 Specification

Frequency	125KHz
Power Requirement	9-24 VDC
Power Consumption	<1.5W
Communication Interface	RS-485(737H only), Wiegand (737U only) and OMRON
Baud Rate	9600 bps / 19200 bps(N,8,1)
Environment	-20°C~+75°C
Indicator	A bi-color LED and a beeper
Read / Write	Read only
Proximity Reading Range	12-20cm
Supported Tags	EM4001/EM4012 compliant
Waterproof	Yes(Option)
Color	Dark Gray
Dimension(mm)	113(L)x71(W)x36(H)
Weight(g)	80
Housing Material	ABS

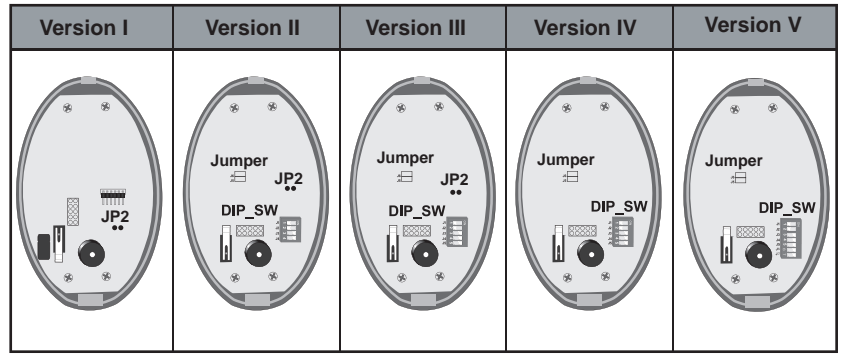
1.3 Difference in Versions

Mode Version	AR-737U	AR-737H
I	JP2 Open	JP2 Close
II	JP2 Open 4-PIN Jumper select "WG"	JP2 Close 4-PIN Jumper select "OUTPUT"
III	JP2 Open 5-PIN Jumper select "WG"	JP2 Close 5-PIN Jumper select "OUTPUT"
IV	6-PIN Jumper select "WG"	6-PIN Jumper select "OUTPUT"
V	8-PIN Jumper select "WG"	8-PIN Jumper select "OUTPUT"

Warranty

SOYAL warrants that the product(s) shall be free from manufacturing defects in materials and workmanship for a period of fifteen (15) months from the date of delivery provided that the product was properly installed and used.

Note: Do not tear a pasteur that AR-737HXXXXXX
0506-123456 on the PCB board, because it is SOYAL warranty.



1.4 Mode Setting

Unit \ Mode	Version I, II, III JP2	Version IV DIP_SW6	Version IV DIP_SW6.7.8
737U ₁₂₅ (WG)	Open(Off)	Open(Off)	J6.Open(Off) J7.Close(On) J8.Close(On)
737H ₁₂₅ (RS-485)	Close(On)	Close(On)	J6.Close(On) J7.Open(Off) J8.Open(Off)

1.5 Wiegand Format Setting

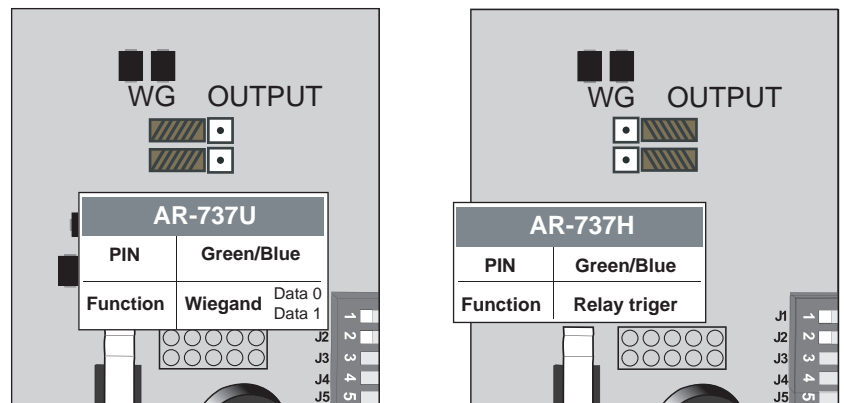
Output format	J1 (DIP_SW1)	J2 (DIP_SW2)
ABA_II / OMRON	Close (On)	Close (On)
WG-38	Open (Off)	Close (On)
WG-34	Close (On)	Open (Off)
WG-26	Open (Off)	Open (Off)

1.6 Indicator Displaying Way While Card Flashin

Indicator while card present	J3 (DIP_SW3)	J4 (DIP_SW4)
Red LED On	Close (On)	Close (On)
Green LED On	Open (Off)	Close (On)
Red LED & Beep On	Close (On)	Open (Off)
No LED or Beep sound	Open (Off)	Open (Off)

1.7 Adding for Version II & III & IV

The version II, III & IV add a 6-pin jumper for wiegand signal or relay output selection. Its setting should follow the rules as below:



Please visit WWW.SOYAL.COM to download the Soyal software, Manual, Catalog & User guide

2. PIN DEFINE

2.1 Wiring of AR-737H/U 125 (Version I)

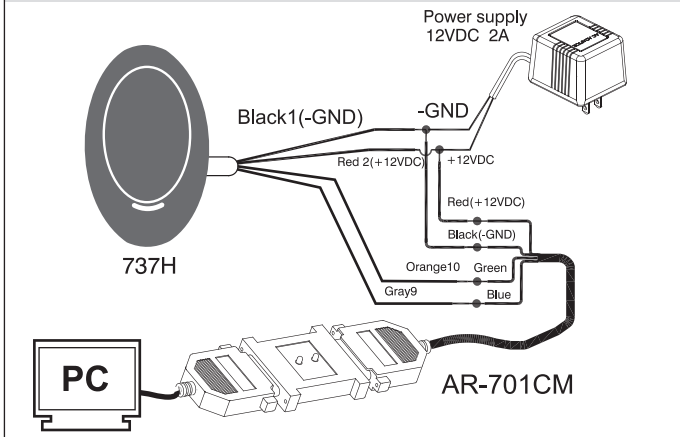
PIN	Description	Color	Function	
1	DC Power Input	Black	GND	
2	DC Power Input	Red	V12	
3	Beeper Control Input (Active low)	Purple	BEEP	
4	WG Data 0	OMRON: Data	Green	Output
5	Card Present Output (Active low)	White	Output	
6	WG Data 1	OMRON: Clock	Blue	Output
7	R-LED control input	Yellow	Input	
8	G-LED control input	Brown	Input	
9	RS-485 A+	Gray	Signal	
10	RS-485 B-	Orange	Signal	

2.2 Wiring of AR-737H/U 125 (Version II & III & IV)

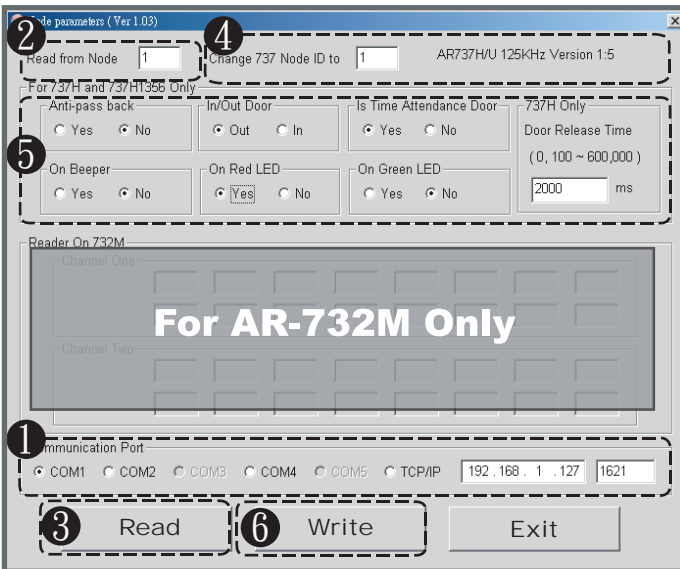
PIN	Description	Color	Function		
1	DC Power Input	Black	GND		
2	DC Power Input	Red	V12		
3	Beeper Control Input (Active low)	Purple	BEEP		
4	WG Data 0	OMRON: Data	Door Relay	Green	Output
5	Card Present Output (Active low)	White	Output		
6	WG Data 1	OMRON: Clock	Alarm Relay	Blue	Output
7	R-LED control input	Door Sensor	Yellow	Input	
8	G-LED control input	Egress	Brown	Input	
9	RS-485 A+		Gray	Signal	
10	RS-485 B-		Orange	Signal	

3. INSTALLATION DIAGRAM

3.1.1 AR-737H125 connection to PC

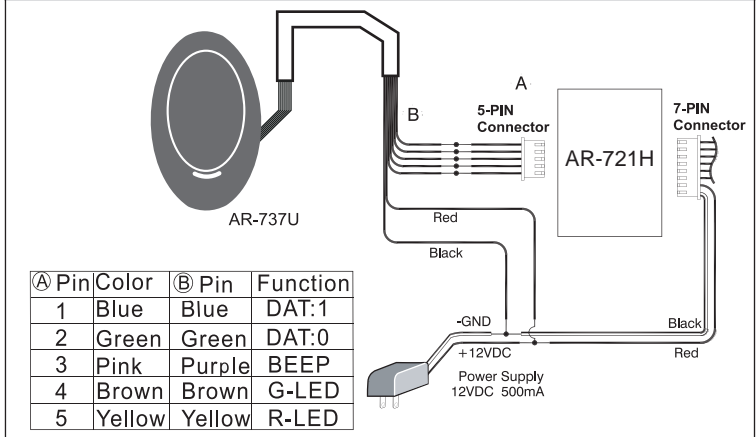


3.1.2 Software setting from Soyal device tools

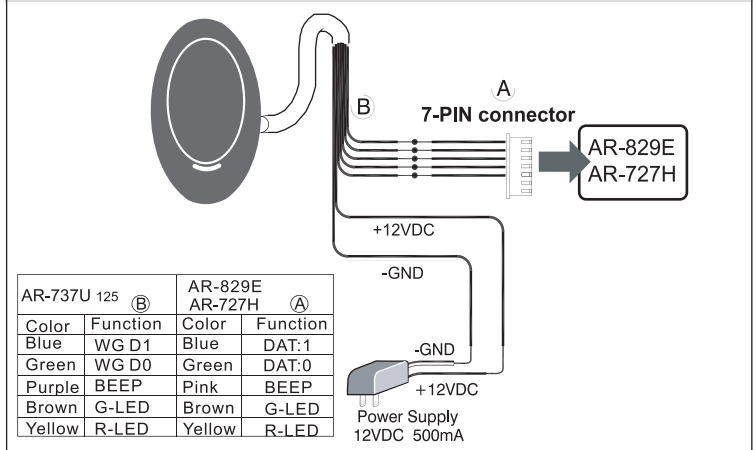


- 1 Select communication port.
- 2 Enter the target AR-737H's Node ID (To ignore Node ID, enter 255)
- 3 Click "Read" to upload parameters from device to Node737 application.
- 4 The screen will show current device parameter and its version, and then key-in the Node ID you want to change.
- 5 Enable or disable the functions of AR-737H.
- 6 Click "write" to download new setting to device.

3.2 AR-737U connect to AR-721H



3.3 AR-737U connect to AR-829E, AR-727H



3.4 AR-737H connect to EM lock & Exit Button with Relay board

