



UHF RFID Vehicle/Entrance/ Elevator Access Control

System building Introduction



UHF RFID Features

- WENSHING Electronics Co., Ltd was established in 1987, our major business line ranges from computer, electronics to communications including the design, manufacturer, production and sales in this related fields. We provide four UHF RFID long range readers: including Industrial Reader, Handheld Reader, Out-door Reader, and In-door Reader which operate in 840~960MHz. All readers meet the standard of NCC.
- The reading range of the Industrial Reader can reach to 35 meters, 7 meters for Handheld Reader and 30 meters for Out-door and In-door Reader. Suitable for different passive tags and interfaces. All readers meet the industrial standard.

UHF RFID Features

- RFID readers can both write and read tag. Capable of handling more than 200 tags. Fast reading speed. Support the Logistics Management application of the entire supply chain. Cut down extra human labor cost. Precise on tracking position and quantity of the target. Increase efficiency and productivity. Decrease cost.
- There are different types of tags which are able to apply to all kinds of business and profession. No battery is needed and does not limit to any direction. Portable data. Great weather resistance. Long life time. Safe. No limitation from the environment. Permanently usable. Especially suitable for automatic or severe environment such as oily, high dust situation, etc.

System Introduction

WENSHING adopt the most advance UHF RFID to development the “RFID Building Access Control System” . It fully supports the management for staff access, vehicle access, etc. The function of the system is as follows:

Staff Access Control : It can accomplish the process to identify the staffs’ identities when accessing/releasing and store the access/release record. Compare to using labor, it can increase efficiency and safety while cutting down more cost. It can export data and data analysis. Data can be exported from the data base to Word, Excel, Web, etc. format easily. The function of data analysis allows the users to know the data clearly any time. Data analysis can build web page statement automatically and upload to the internet. The system support safe and stable data base backup, allows the users to experience intelligent staff access management with ease.

Vehicle Access Control : It can accomplish in vehicle access for identification, recording, deducting, and releasing automatically. Compare to using labor, it can increase efficiency and safety while cutting down more cost. It can also stop the external people and vehicle from accessing. It can track the location of the people and vehicle at the same time.

System Framework

UHF RFID Industrial Reader 、 Access Control Reader 、 Elevator Control Reader

- Read and write the ID information to the backstage. Upload, add new, or update staff and vehicle information instantly.

UHF RFID Antenna

- Link to the industrial reader. Read the staff and vehicle access information.

Main System Computer

- Integrate the access control system and elevator control system.

Industrial Reader

- **WS-UHFRFIDANT4 Industrial Reader:**
 - Size : 160*160*55mm (W*D*H)
 - Frequency : 902~928MHz (depends on region)
 - Signal Strength : -90dBm
 - RF Power : 2W (33dBm)
 - Reading range : 35m (MAX.)
 - Interface : Wiegand26/34 、 RS232 、 RS485 、 Wi-Fi 、 Ethernet
 - Voltage : DC 12V 1A
 - Protocol : EPC Class 1 Gen 2 ISO18000-6C IS18000-6A/B
 - Wi-Fi : IEEE802.11b/g standard

Access Control Reader

- **WS-UHFREADT Access Control Reader:**

Size : 125*107.75*23.70mm (W*D*H)

Frequency : 902~928MHz (depends on region)

Protocol : ISO18000-6B · ISO18000-6C(EPCGEN2)

Hopping : Broad-spectrum frequency hopping (FHSS) or fixed frequency set by software.

Reading modes : Timed automatic tags reading, external trigger reading or reading triggered/controlled by software. Reading modes can be adjusted.

Power : 20~30dBm (Adjustable by software)

Range : Distance adjustable. Ranging from 0 to 3 meters. (Build-in antenna)

Voltage : DC 12V

Reading time : Single Tag 64 bytes. Reading time < 6ms

Elevator Control Reader

- **WS-UHFREADS Elevator Control Reader:**

Size : 102.75*48.4*20.9mm (W*D*H)

Frequency : 902~928MHz (depends on region)

Protocol : ISO18000-6B · ISO18000-6C(EPCGEN2)

Hopping : FHSS or fixed frequency set by software.

Reading modes : Timed automatic tags reading, external trigger reading or reading triggered/controlled by software. Reading modes can be adjusted.

Power : 20~30dBm (Adjustable by software)

Range : Distance adjustable. Ranging from 0 to 3 meters. (Build-in antenna)

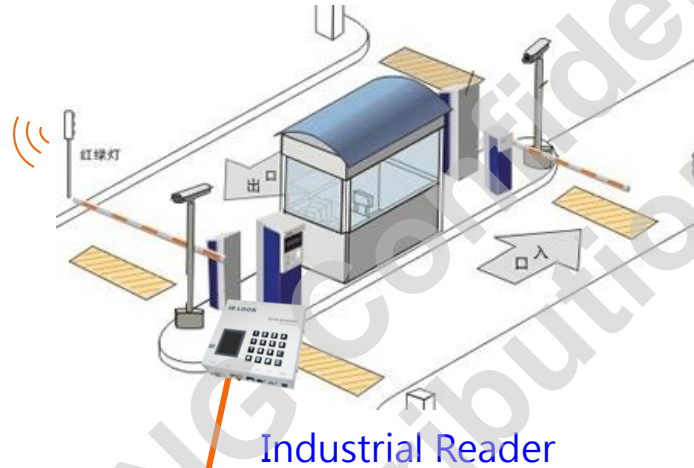
Voltage : DC 12V

Reading time : Single Tag 64 bytes. Reading time < 6ms

System Process



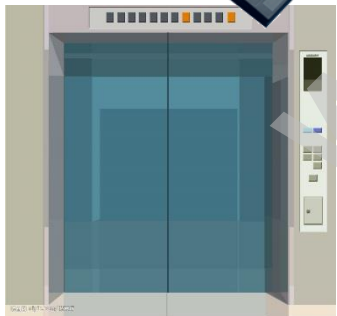
Staff's vehicle is attached with Tag.



Staff leaves the vehicle and accesses the entrance.



Elevator Control Reader



After the Elevator Control Reader reads the staff's ID card, it will allow the staff to reach the corresponding floor only. The staff can not reach other floors.



Main System Computer

Access Control Reader



Access Control Reader reads the information and allows the staff to access.



Dual Frequency ID Card

The staff and vehicle access ID card is dual frequency ID card. It includes UHF RFID and HF access system. Two usages in one card. Avoiding the staff to carry multiple cards. Saving cost and enjoying convenience at once.



Staff Access Management

When the staff accesses the gate, 【UHF RFID Antenna】 will read the information from the ID card automatically. It will record the information from the ID card (including name, access date, access time, etc.) to the 【Main System Computer】 data base. It will allow the staff to access if the information is confirmed.



Main System Computer



Main System Computer Management

Enter the data base from the 【Main System Computer】 and the data will be perfectly clear. It can export data and data analysis. Data can be export from the data base to Word, Excel, Web, etc. format easily.

	A	B	C	D	E	F	G	H	I
1	Name	Date	Time					3/1	3/2
2	AA	3/1	8:29				AA		
3	AA	3/1	18:19				BB		
4	AA	3/4	8:14				CC		
5	AA	3/4	17:41						
6	AA	3/5	8:28						
7	AA	3/5	18:21						
8	AA	3/6	8:31						
9	AA	3/6	17:54						
10	AA	3/7	8:27						
11	AA	3/7	17:41						
12	AA	3/8	8:28						
13	AA	3/8	17:34						
14	BB	3/1	8:42						
15	BB	3/1	17:45						
16	BB	3/4	8:32						
17	BB	3/4	17:42						
18	BB	3/5	8:38						
19	BB	3/5	17:33						
20	BB	3/6	8:40						
21	BB	3/6	17:38						
22	CC	3/1	8:48						
23	CC	3/1	17:35						
24	CC	3/4	8:47						
25	CC	3/4	17:32						
26	CC	3/5	8:41						
27	CC	3/5	17:31						
28	CC	3/6	8:33						
29	CC	3/6	17:41						

Combine with Cloud Service

Home Page

Function Introduction

User Control

Card No. Information

Access Record

Setting

Staff Access Record

Columns...

No.	Card No.	Gate No.	In	Out	Time
1	A0000001	G1	•		20141030 1350
2	A0000001	G1		•	20141030 1650
3	A0000001	G1	•		20141031 1350
4	A0000001	G1		•	20141031 1350
5	B0000001	G2	•		20141101 1350
6	B0000001	G2		•	20141102 1350
7	A0000002	G1	•		20141103 1350
8	A0000002	G1		•	20141103 1550
9	B0000002	G1	•		20141105 1350
10	B0000002	G1	•	•	20141105 1750

Staff Access Error Control

If a staff accesses to an unauthorized area or shows error, 【Main System Computer】 will read the error and auto alarming. The access system will not allow staff to access.



Main System Computer



Elevator Access Control

When staff enters the elevator, 【 Elevator Control Reader 】 reads the staff' s ID card, it will allow the staff to reach the corresponding floor only. The staff can not reach the other floors.



Main System Computer

Vehicle Access Control

When the vehicle reaches the gate, the system will read the Tag attached on the vehicle. If the information is confirmed, the barrier will raise up automatically, allowing the vehicle to pass.



Main System Computer



Combine with Cloud Service

Home Page

Function Introduction

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Card No. Information

Access Record

Setting

Staff Access Record

Columns...

No.	Card No.	Gate No.	In	Out	Time
1	A0000001	G1	•		20141030 1350
2	A0000001	G1		•	20141030 1650
3	A0000001	G1	•		20141031 1350
4	A0000001	G1		•	20141031 1350
5	B0000001	G2	•		20141101 1350
6	B0000001	G2		•	20141102 1350
7	A0000002	G1	•		20141103 1350
8	A0000002	G1		•	20141103 1550
9	B0000002	G1	•		20141105 1350
10	B0000002	G1	•	•	20141105 1750

Vehicle Access Error Control

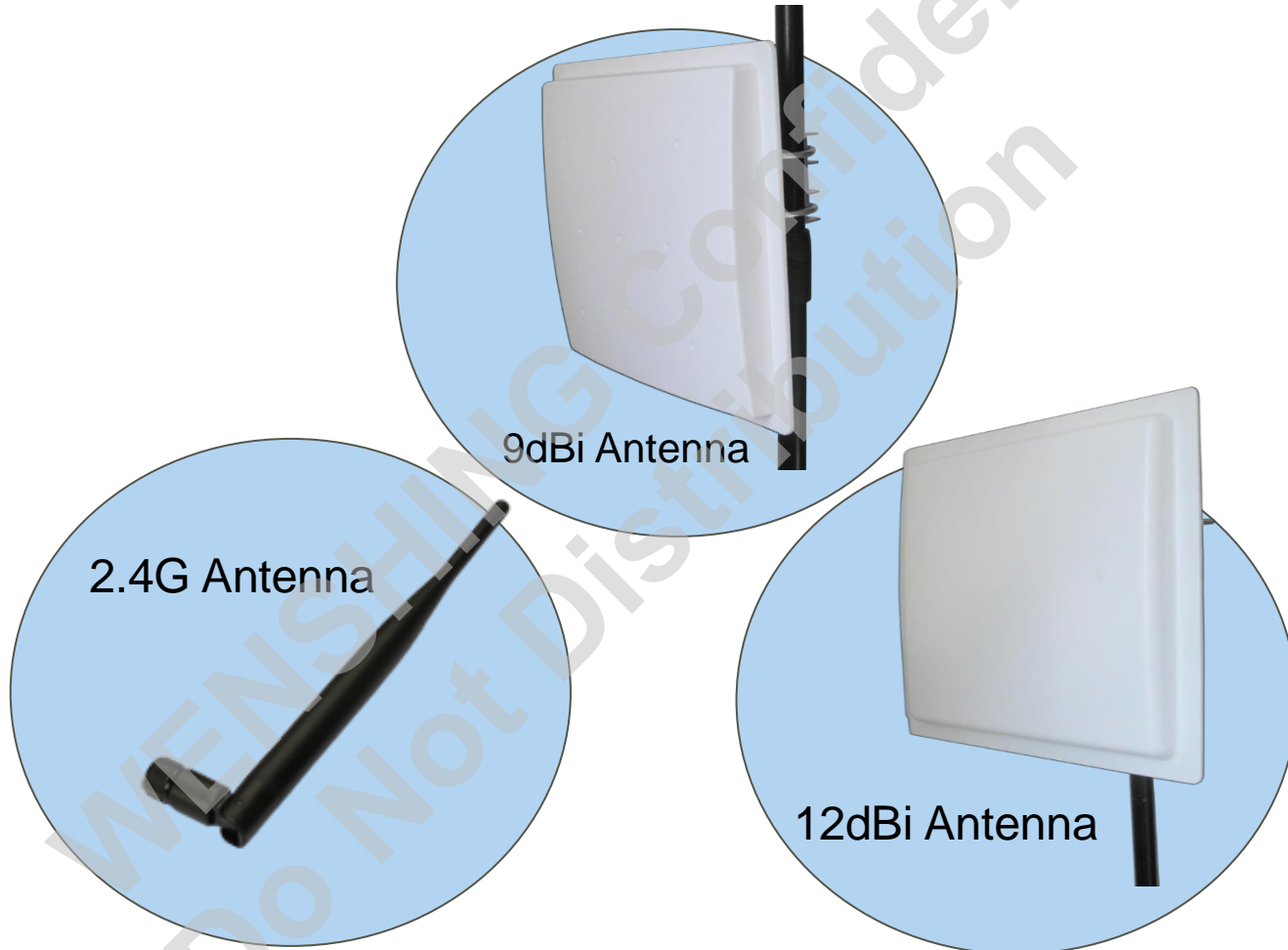
If the reader at the gate reads the ID card which shows arrears or cancellation of registration, the system will alarm automatically. The barrier will not raise up, so the vehicle can not pass. The system can judge if the driver is correct by checking the ID card and the vehicle information. If it is not correct, it will judge the vehicle as stolen and activate alarm.



Main System Computer



Accessory Picture



Directional Antenna 9dBi

Technical Specifications	
Frequency (MHz)	902~928
Bandwidth (MHz)	26
VSWR	≤1.25
Gain (dBi)	9
Antenna Size (mm)	280*280*40
Polarization Type	Circular Polarization
Max Input Power (W)	100
Input Impedance (Ω)	50
Horizontal Beam Width (°)	60
Vertical Beam Width (°)	60
Front-to-Rear Ratio (dB)	20
Connector	SMA
Radome Material	ABS

Directional Antenna 12dBi

Technical Specifications	
Frequency (MHz)	925
Bandwidth (MHz)	26
VSWR	≤1.25
Gain (dBi)	12
Antenna Size (mm)	445*445*40
Polarization Type	Circular Polarization
Max Input Power (W)	100
Input Impedance (Ω)	50
Horizontal Beam Width (°)	40
Vertical Beam Width (°)	38
Front-to-Rear Ratio (dB)	25
Beam Width E-Plane	38
Beam Width H-Plane	40
Connector	SMA
Radome Material	ABS

Thank you for your attention and support!

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