

# **PC-SAFE**

## **Long Range RFID Reader**

### **User's Manual**

**PC-1015CR**

VER 2.1

2007.1.18

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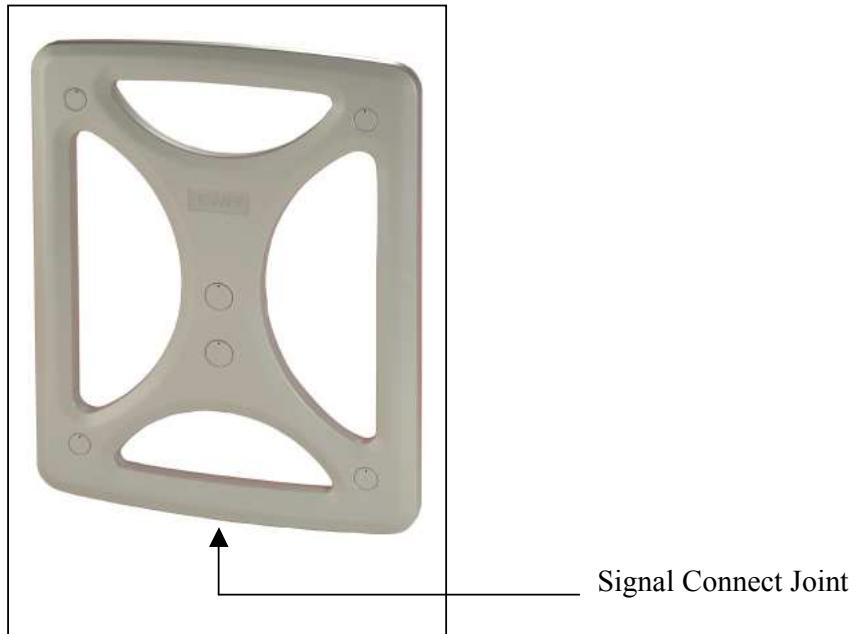
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## Appearance Guide

Long Range RFID Reader

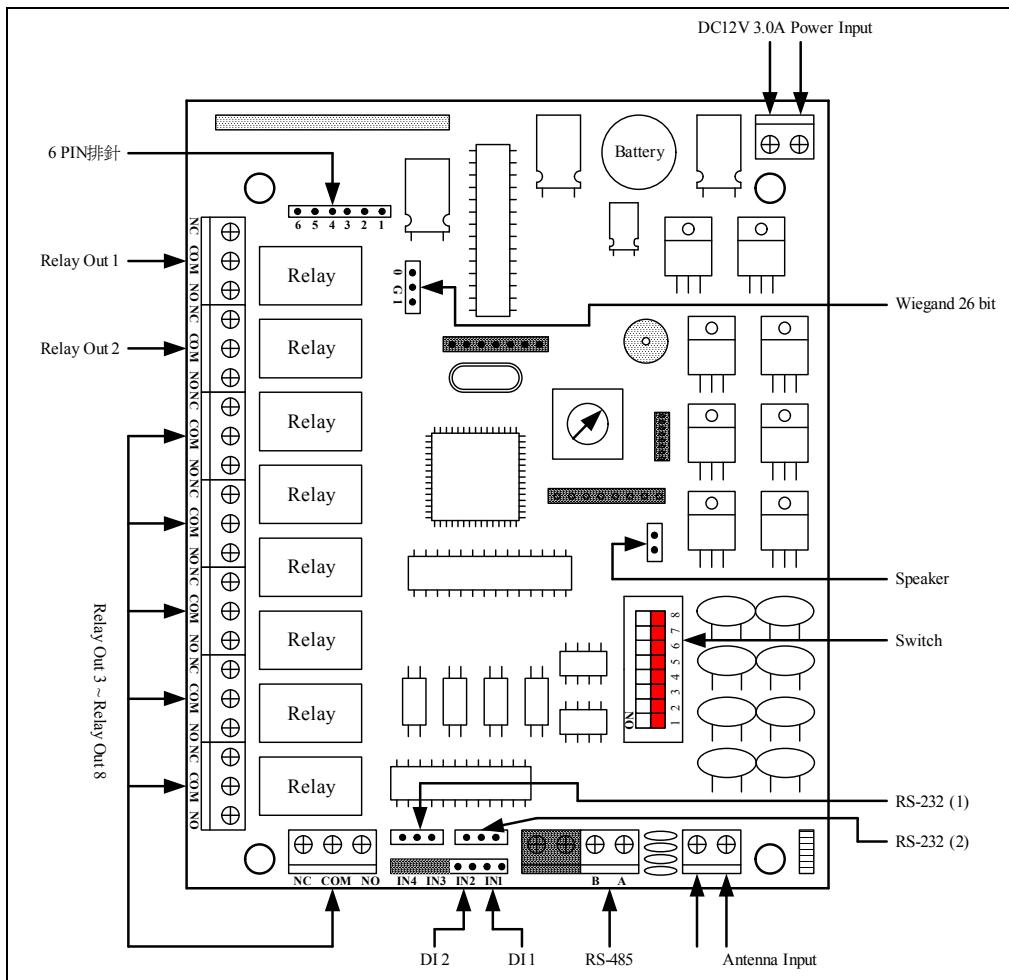


Antenna



## Setup Guide

### Long Range RFID Reader



6 PIN

= LED Signal , Wire colors :Red Light (1 Red 2 Black)

Yellow Light (3 Yellow 4 Black)

Green Light (5 Green 6 Balack)

Relay Out 1

= Open Gate Signal

Relay Out 2

= Close Gate Signal

Relay Out 3 ~ Relay Out 8

= Billboard (or LED) Signal Output , total of 6 status output

DI 1

= “Wake-up” Digital Input ( Must be connected )

DI 2

= “Door Closing” Digital Input ( Must be connected to the Gate or Closing Loop )

RS485

= Link to Controller

RS232 (1)

= Link to LED Billboard or other indicating interface

RS232 (2)

= Data Output

Switch

= Sensitivity Switch

Speaker

= Embedded speaker with 5 voice indications

Articulation`

= Pass、Invalid、Anti-Pass Error、Fail、Low Battery

Wiegand 26 bit

= Data Output

## Installation Guide

### 1 Antenna (Pillar)

1. Lock the U-ring to the Base Plate on the Pole (2 Inches in Diameter). (Fig. 1)
2. Fix the Antenna to the Base Plate. (Fig. 2)

Fig.1

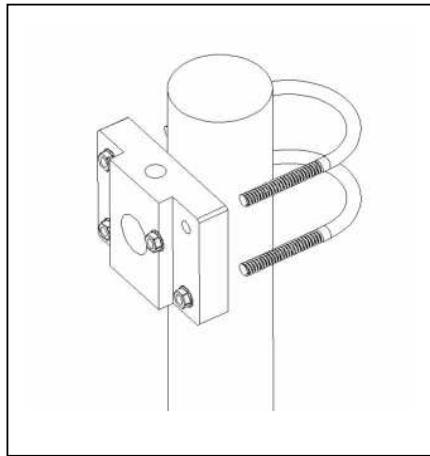
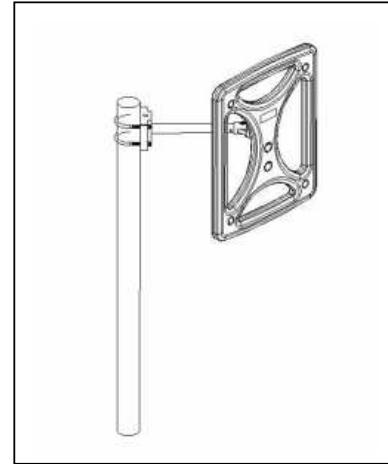


Fig. 2



### (Wall)

1. Screw the Base Plate on the Wall. (Fig. 1)
2. Fix the Antenna on the Base Plate. (Fig. 2)

Fig 1.

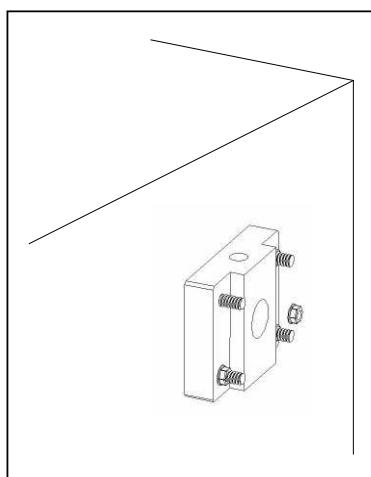
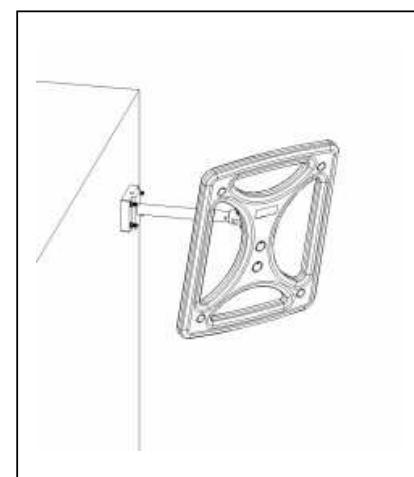


Fig. 2



## 2 Long Range RFID Reader and Antenna

1. Once completed the setup of the reader, fix the cap as indicated in Fig. 1.
2. Link the Signal Wire of the reader and antenna together. (Fig.2 and Fig.3)
3. Be sure the length between both reader and antenna are within 3 meters for the best performance.
4. The signal wire provided will be 3 meters long, cut it if it's too long. DO NOT ROUND IT UP, it reduce efficacy.
5. Do not put the reader into metallic cases.

Fig. 1

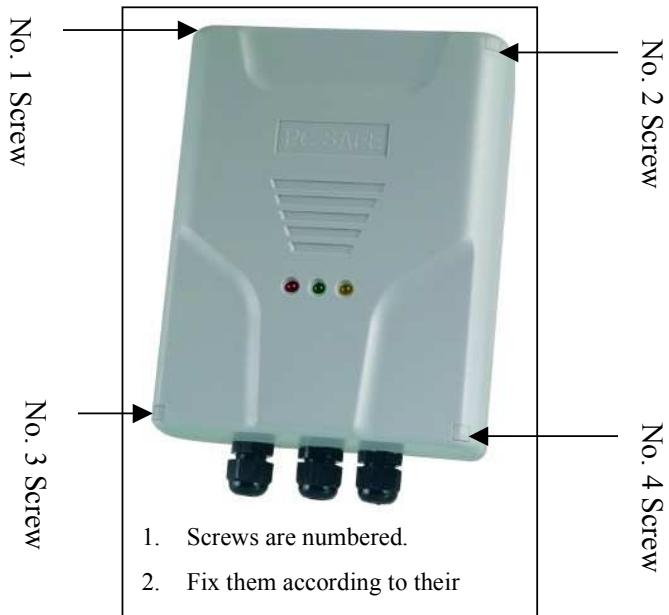


Fig. 2

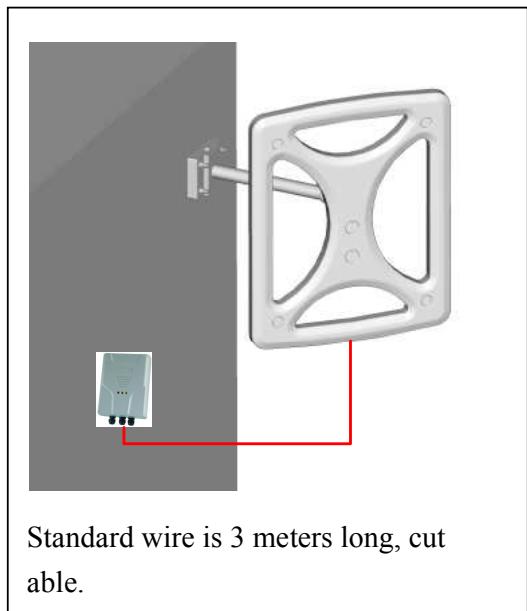
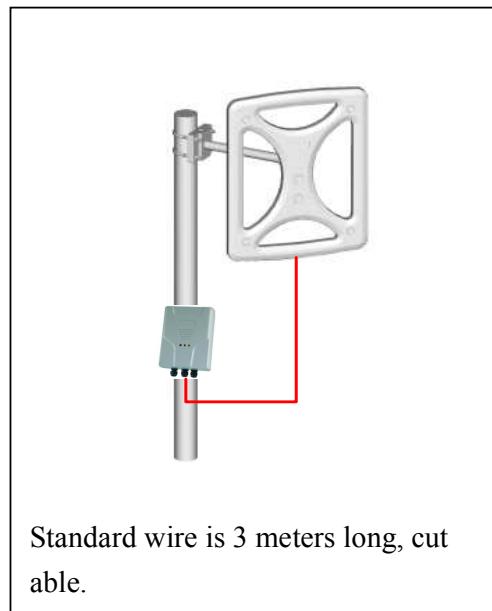


Fig. 3



### 3. Finding the most effective range of the Reader.

1. After installing the reader, refer to fig. 1 and 2 finding the most effective sensitivity range.

Fig. 1

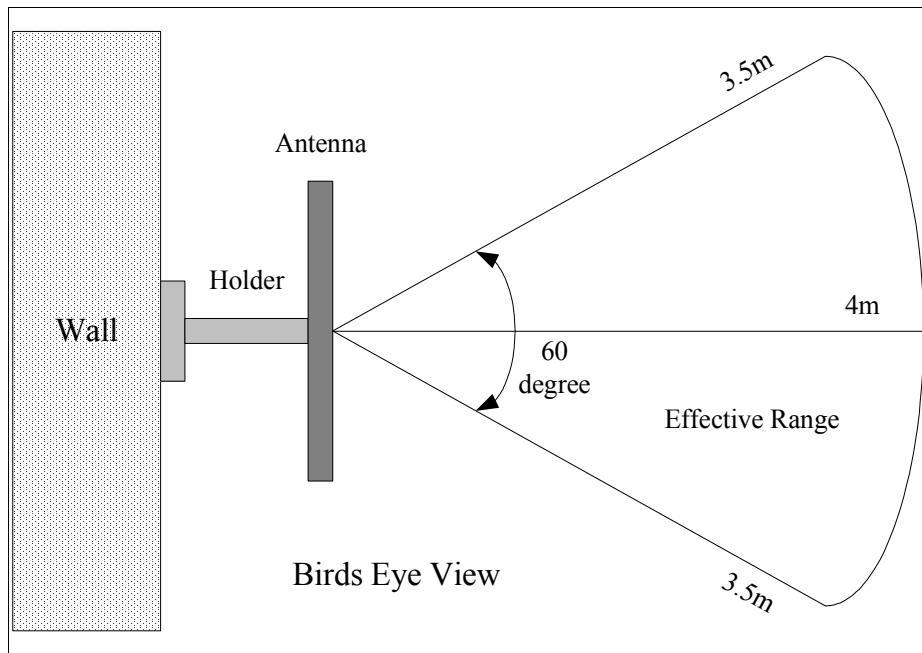
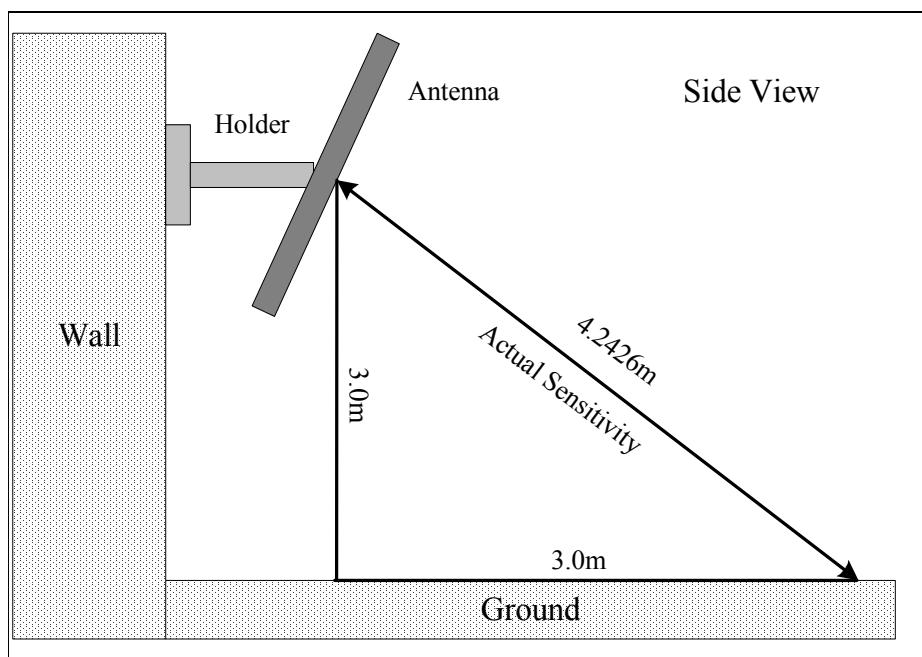


Fig. 2



### 4. The best angle between Reader and Card

1. While installing the antenna please make sure to adjust angle for it to become **FACE to FACE PARALLEL** with the card. (fig. 1)
2. Please put the card into the cardholder, and stick it onto the top-left or the top-right corner of the windscreen.
3. If the antenna was placed at the **LEFT** side of the card, stick the card on the **TOP-RIGHT** corner of the windscreen for the best efficacy. (fig. 2)
4. If the antenna was placed at the **RIGHT** side of the card, stick the card on the **TOP-LEFT** corner of the windscreen for the best efficacy. (fig. 3)

FIG. 1

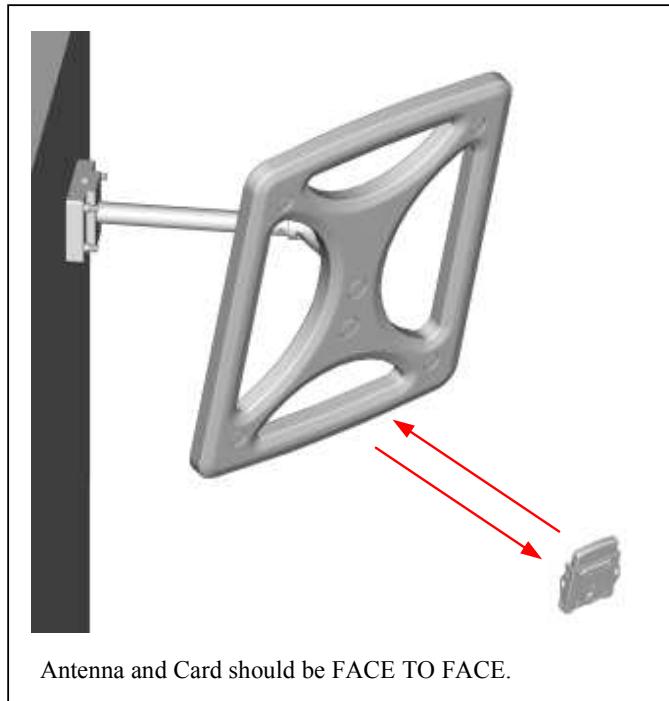


FIG. 2

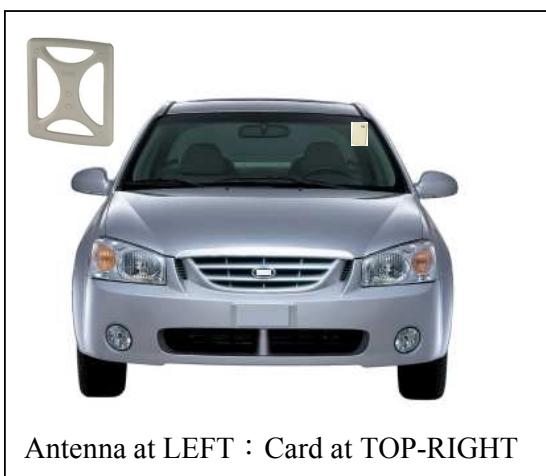
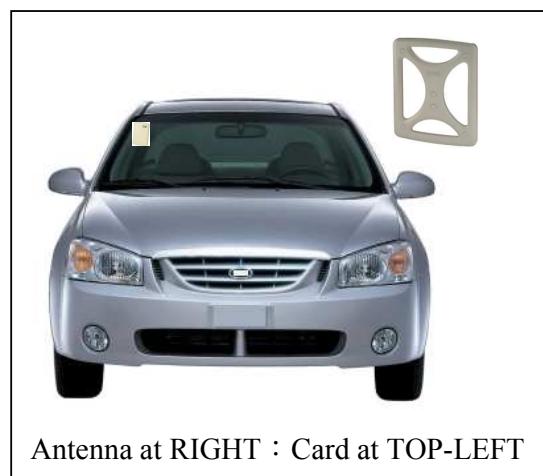


FIG. 3



#### Installer's Notice

1. The reader does not store history data and data comparison.
2. The product must be linked to a controller.
3. If the system used other branded Wiegand 26 bit controller, the reader may only transfer data (card id).
4. If the system uses Boryeu's controller, thus the reader becomes more functional. Including alternating reading time in different readers, voice indication, LED Billboard and controlling the "open/close" of gates.
5. The standard system MUST link with an external sensor to activate the reader, e.g. IR, loop and ultrasound sensors etc. (If "always sensing" reader wanted, please state it when ordering.)
6. When the reader receives an external sensor signal, it would be activated once for 4 seconds. If the reader sensed a card within the timeframe it would be deactivated automatically, and waiting for the next signal. If no card was sensed during the timeframe, the reader would repeat itself once again (DI 2 must be connected).
7. If two readers are installed on one pathway (in and out), please turn on the anti-colliding function for the system to work fluently.
8. Please do not install the antenna on metallic surfaces, or covering the reader in metallic cases. These may cause the system to work abnormally.
9. Please use the alloy holder when installing the antenna preventing the metallic substances inside the wall affecting the RF.
10. Make sure the power supply is at least 1m away from the reader.
11. Do not install the reader near any machines that gives out electromagnetic waves.
12. Please make sure the card and the antenna is at an angle FACE TO FACE to provide the best efficacy.
13. When installing the reader, please remember to be user friendly by setting the antenna on one side in both directions. Either all right or left.
14. Please make sure the antenna is 2.5 – 3m above ground, and use the holder adjusting to the perfect angle.
15. When installing the reader outdoor, please put it in a waterproof case (non-metallic).

### User's Notice

1. All user should use a card holder.
2. Please adjust angle of the card for it to become **FACE to FACE PARALLEL** with the antenna. (fig. 1)
3. If the antenna was placed at the LEFT side of the card, stick the card on the TOP-RIGHT corner of the windsreen for the best efficacy. (fig. 2)
4. If the antenna was placed at the RIGHT side of the card, stick the card on the TOP-LEFT corner of the windsreen for the best efficacy. (fig. 3)
5. The items above states the standard use of the system please co-operate.
6. If you are using the system for the first time and doesn't function properly. Its possible electromagnetic wave interaction around that area. Please move the card bit by bit from the original area, until you find the right place.
7. The card should stay on the windsreen of the car, no where else.
8. For motorcyclist the card should be placed in the pocket of the shirt for the best efficacy.

9. Please do not put the card in the motorcycle as it would work abnormally.
10. After a while if you found the reaction of the system are not as smooth as before. Please check the battery.
11. Please leave the card out of water, and any vandalism.

Fig. 1

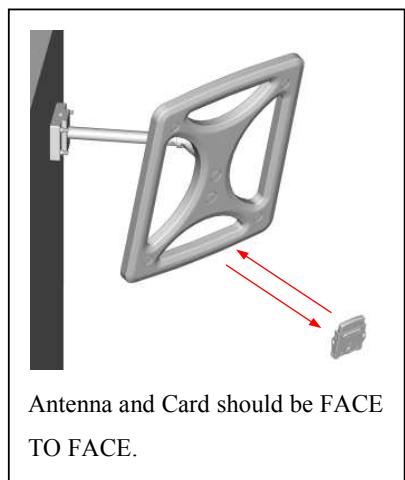
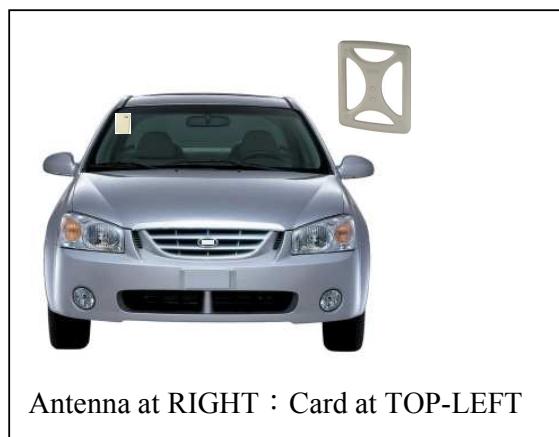


Fig. 2



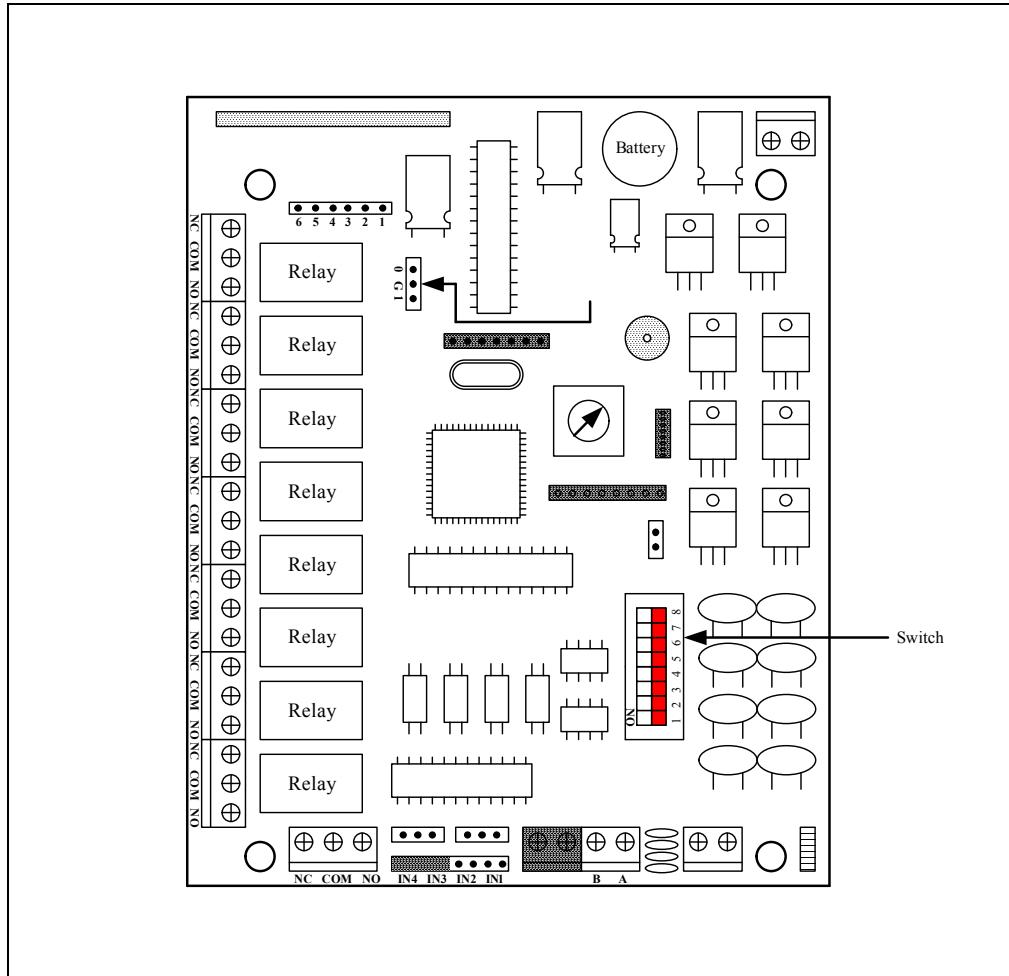
Fig. 3



## Reader Adjustment

1. Please use the alloy holder when installing the antenna
2. The antenna in different environment might affect its range. Possible of heavy metals around, or magnetic field interference.
3. If the range are shortened mentioned above, you could use the **sensitivity switch** to improve it.
4. If the sensitivity switch doesn't work as well. It's suggested that change a model, or install it in a better environment.

Fig. 1



Sensitivity Switch = Switch according to sequence from 8, 7, 6, 5, 4, 3, 2, 1 from OFF to ON until the best sensitivity is reached.

## **Troubleshooting**

Please check the power supply was connected properly.

If the reader could not be activated, please check if the relay are connected properly.

If voice indication doesn't work, please check if speaker are properly connected.

If the LED Billboard doesn't work, please check for loose line or connection error. Relay3~Relay8.

Reader activated but doesn't read, check for loose connection on the antenna.

If data could not be send to the controller, check if Wiegand or RS485 output is loose or connection error.

If card could not be identify, please check for electromagnetic interference. Do a little adjustment to find the best place.

After a while the card might need to change battery.

Other problems, please contact the distributor for service.

## **Warranty**

The products are warranted for one year, this does not include battery, cardholder and sucker.

Warranty also excluded natural disasters, accidents, misuse and abuses of the system.

WARNING : The stickers should stay on the product for the warranty to be effective.

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

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

## **FCC INFORMATION**

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

The 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 instruction, may cause harmful interference to radio communication. 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.

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.