

# Installation Guide

UHF RFID Integrated Machine: U1000E, U1000F,  
U2000E, U2000F

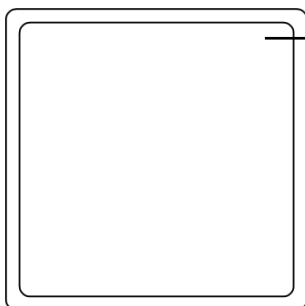
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Version: 1.0

Date: 2017.09

# 1. Overview

## Front View



Antenna

Working Frequency:

902MHz~928MHz

865MHz~868MHz

Read Range:

U1000E/F (0-6 meters)

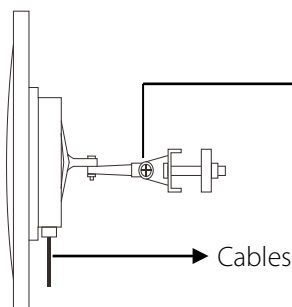
U2000E/F (0-12 meters)

Dimension

250mm\*250mm\*70mm (U1000E, U1000F)

445mm\*445mm\*70mm (U2000E, U2000F)

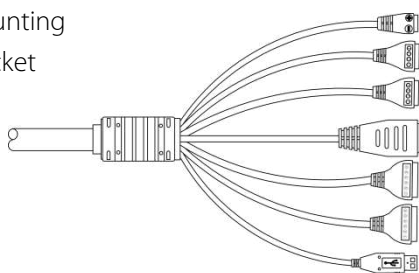
## Lateral View and Interface



Mounting  
Bracket

Cables

### Cables



2PIN

4PIN Green

4PIN Black

RJ45

6PIN Green

6PIN Black

USB

### Cable Definition:

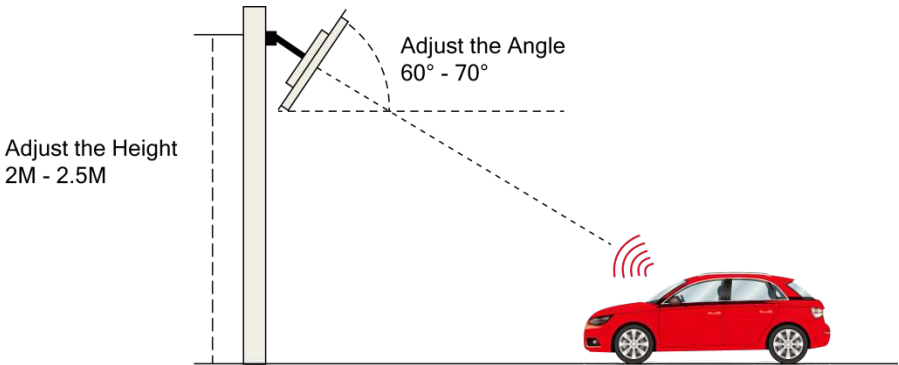
	6PIN Green		6PIN Black		4PIN Green		4PIN Black
Lock	① NO1	Red LED	① RLED	Power Out	① +12V	Button	① SEN
	② COM1	Green LED	② GLED		② GND		② BUT
	③ NC1	Beep	③ BEEP		Wieg-and In		③ IWD0
Lock	④ NO2	Wieg-and Out	④ GND	④ IWD1		④ TRIG	
	⑤ COM2		⑤ WD0	Power In	① GND		
⑥ NC2	⑥ WD1	② +12V					

## 2. Install the Integrated Machine

### 1) Hang Mounting

Please install the integrated machine according to the following chart. The machine is installed on the fixed column, and the angle and height is adjusted according to the actual effect of swing card.

#### Method A:



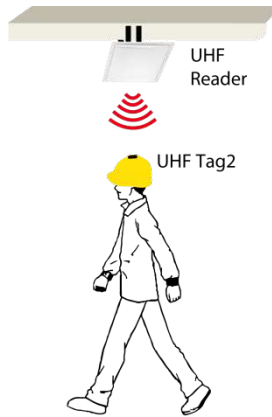
#### Method B:



Note: To get better reading performance, driving direction of vehicle should face to the UHF integrated machine.

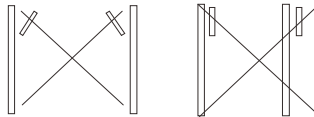
### 2) Ceiling Mounting

Please install the integrated machine vertically on the ceiling. We recommend the installation height from the ground is no more than 4 meters in order to better identify effect.



Note:

1) Avoid installing the integrated machine against to another.



2) The integrated machine detection distance may vary depending on rain, snow or wind.



3) The device should be away from strong magnetic field when working.

### 3. Install the UHF Card

1) Tag1, DF01Card, DF02Card

UHF1-Tag1, DF01Card and DF02 Card are generally used in long distance access control management and long distance pedestrian crossing control management.



## 2) Tag2 Card

UHF1-Tag2 is generally used in long distance pedestrian crossing control management, such as long distance single channel access management in construction site.



## 3) Tag3 Card

UHF1-Tag3 is generally used in long distance fixed vehicle access management. It is installed on the upper or lower edges of the license plate.

As is shown below:



## 4) Tag4 Card

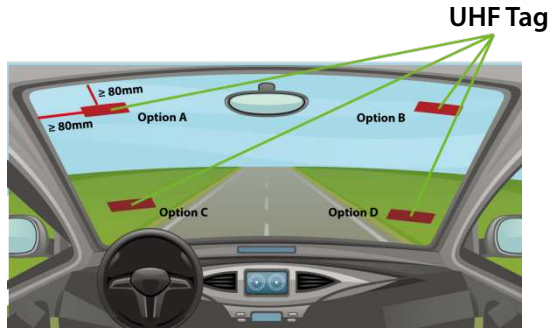
UHF1-Tag4 is also generally used in long distance fixed vehicle access management. It is pasted on the interior windshield of car.



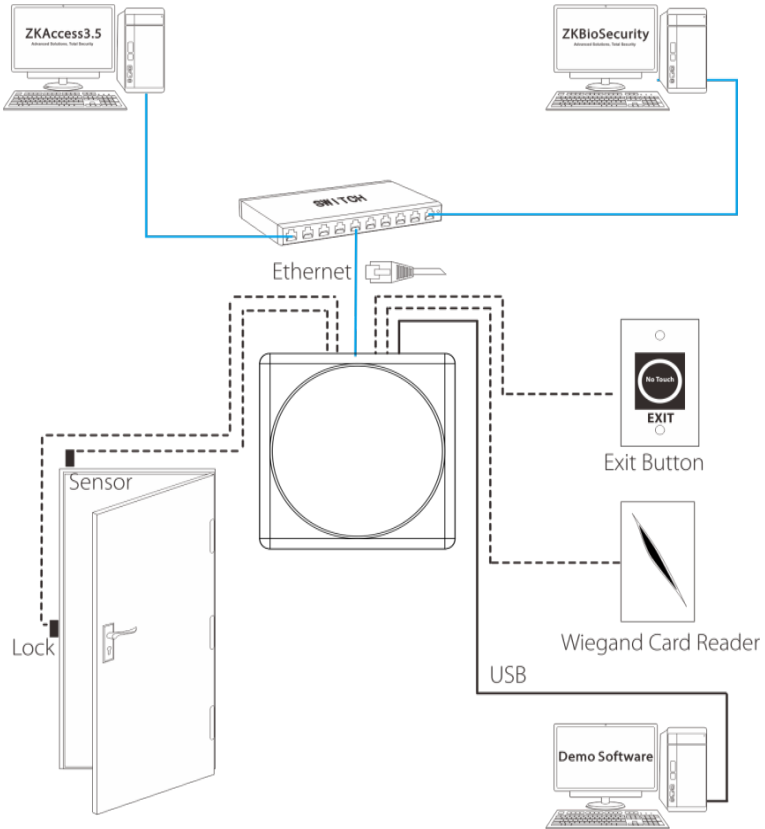
The distance between the UHF tag and the metal frame shall be 80 mm at least.

The position of the tag/card in the vehicle is as follows:

Note: If there is a metal explosion-proof film above the windshield, you have to cut a small piece off it or roll down the window to read the tag.  
(The cut area is at least one time the tag's)



## 4. Structure Function

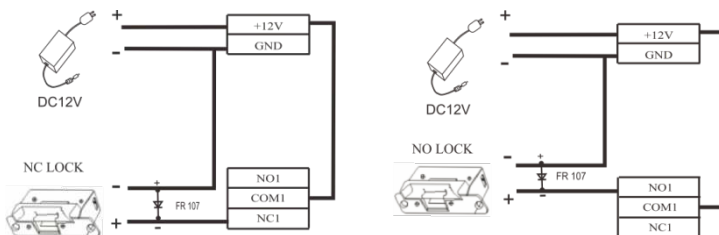


- (1) If a registered user verified, the device will export the signal to unlock the door.
- (2) Door sensor will detect the on-off state.
- (3) External exit button is supported; it is convenient to open the door inside.
- (4) External card reader is supported.
- (5) Connect the USB port of the integrated machine to the USB port of the computer to set the working parameters of the integrated machine.
- (6) Supports TCP/IP modes to connect with PC.

## 5. Lock Connection

### 1) Shares power with the lock:

$U_{LOCK}=12V, I \geq I_{Device} + I_{Lock}$  (The maximum operating current of device is 100mA, and the rated current is 60mA); and the lock is near to the device.

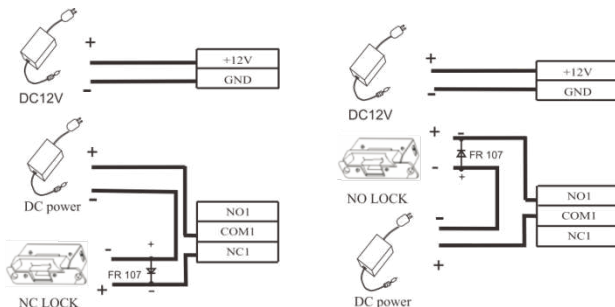


### 2) Does not share power with the lock:

① When  $U_{LOCK}=12V, I < I_{Device} + I_{Lock}$  (The maximum operating current of device is 100mA, and the rated current is 60mA);

② When  $U_{LOCK} \neq 12V$ ;

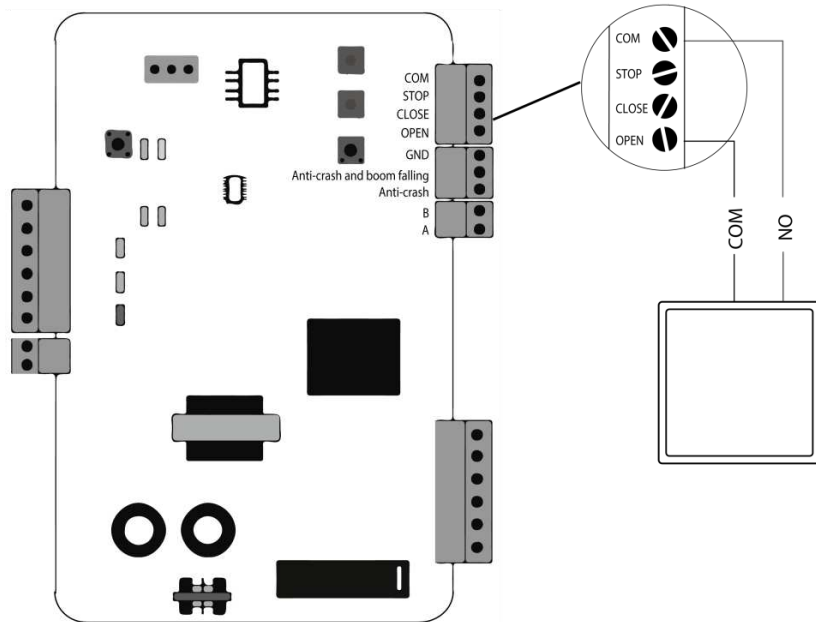
③ When the lock is far from the device.



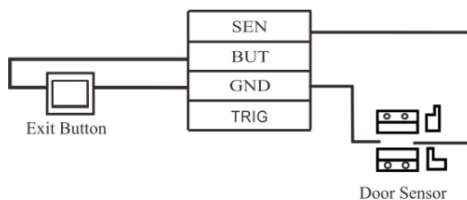
(1) The system supports NO LOCK and NC LOCK. The NO LOCK (normally open by power on) is connected with NO terminal, and the NC LOCK is connected with NC terminal.

(2) To prevent the generation of self-inductance EMF which would affect the system, when the electrical lock is linked to the Access Control System, it is required to connect one FR107 diode (equipped in the package, do not reverse the polarities) in parallel in order to release the self-inductance EMF.

## 6. Barrier Connection

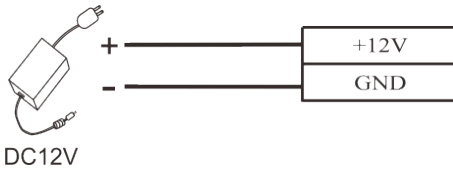


## 7. Connected with other parts





## 8. Connected with Power

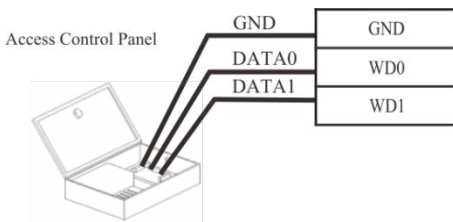


Input DC12V,  $\leq 110\text{mA}$  ( $\leq 80\text{mA}$  standby)

Positive is connected with +12V, negative is connected with GND (do not reverse the polarities).

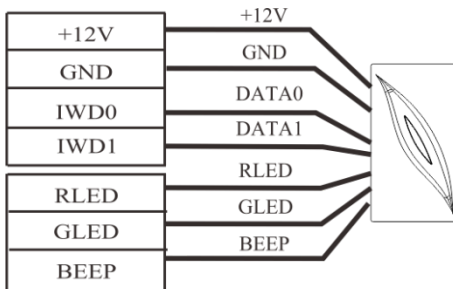
## 9. Wiegand Output & Input

### 1) Wiegand Output



The device supports standard Wiegand 26/34 output, as a reader device it has a very good compatibility.

### 2) Wiegand Input



The device has the function of Wiegand signal input. It supports to connect with an independent card reader. They are installed each side of the door, to control the lock and access together.

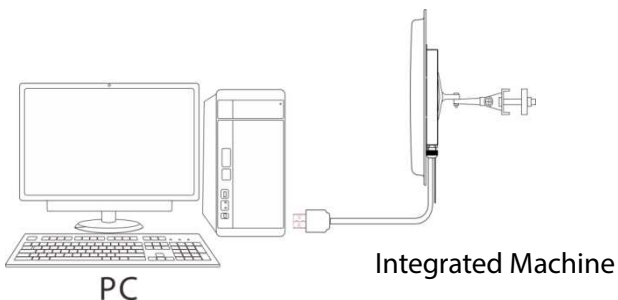
Note:

(1) Please keep the distance between the device and Access Control or Card Reader less than 90 meters (Please use Wiegand signal extender in long distance or interference environment).

(2) To keep the stability of Wiegand signal, connect the device and the Access Control or Card Reader in same 'GND' in any case.

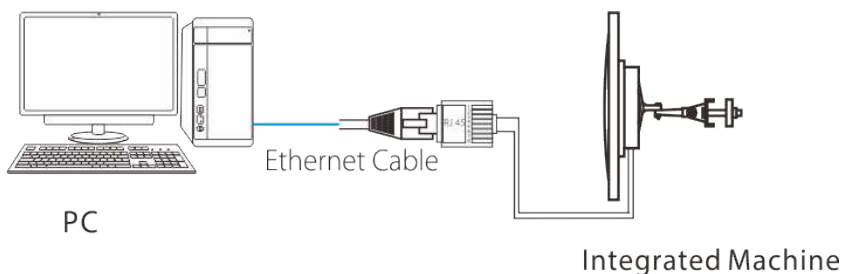
## 10. Connected with Computer

### 1) USB Connection



Connect the USB port of the integrated machine to the USB port of the computer. Set the working parameters of the integrated machine using DEMO software.

### 2) RJ45 Connection



Connect the RJ45 port of the integrated machine to the Ethernet port of the computer. The machine supports access to ZKAccess 3.5 and ZKBioSecurity 3.0.

