ACS-001 Biometric Scanner Installation Guide

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About this Guide

This guide provides actual installation instructions only. For information regarding user instructions, please refer to "ACS-001 User Manual".

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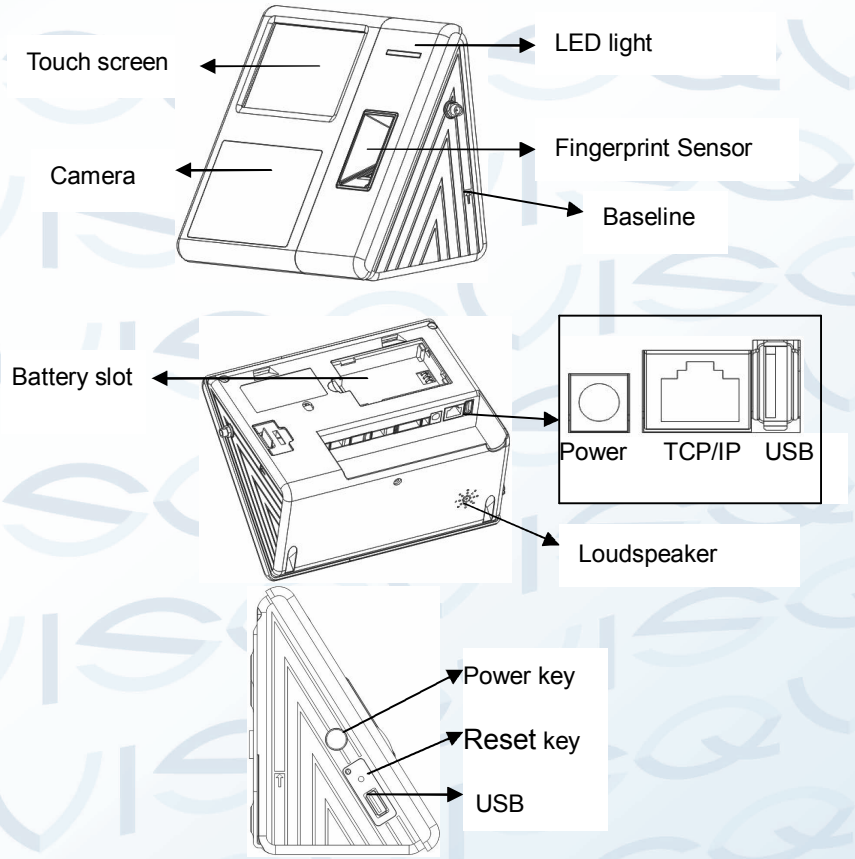
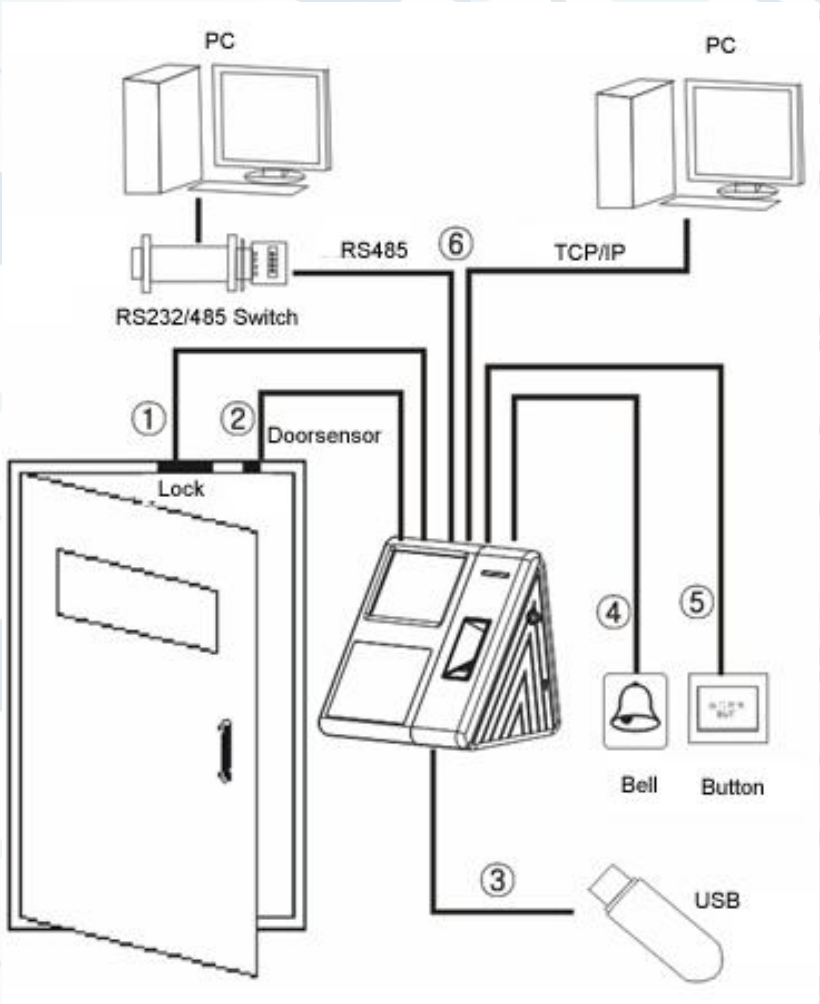
1 System Configuration

1.1 View of operation panel

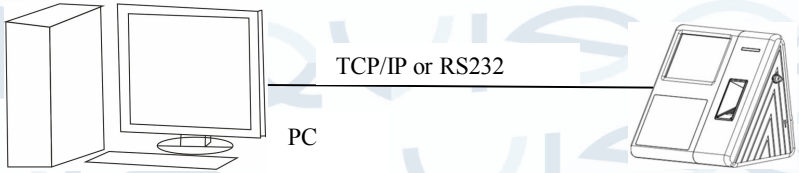


1.2 The illustration of system connections

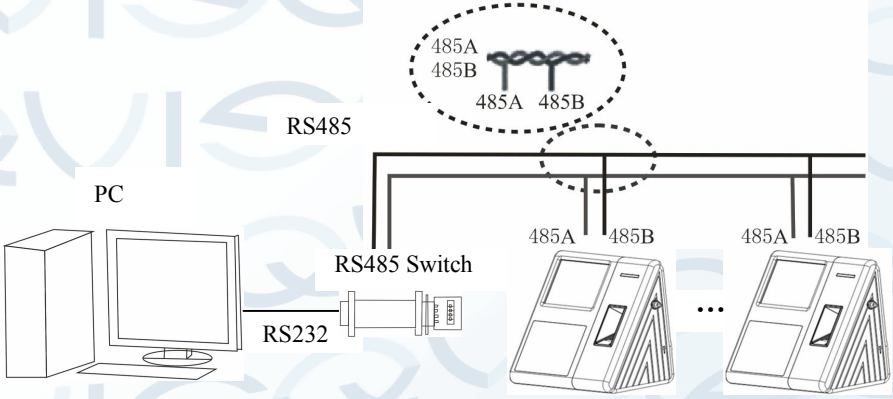


1.3 The sketch map of communication

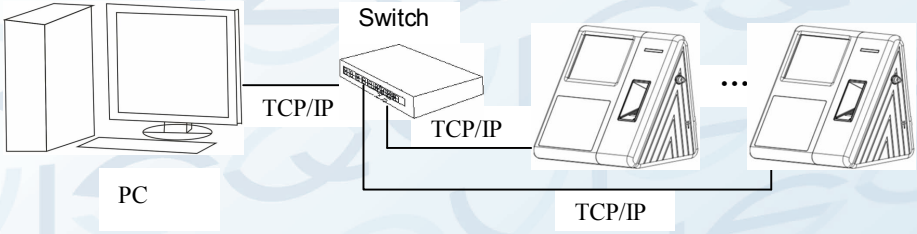
1 Fingerprint machine directly connects with PC via RS232 or TCP/IP.



2 Fingerprint machine connects with PC through RS485 network.



3 Fingerprint machine connects with PC through TCP/IP network.

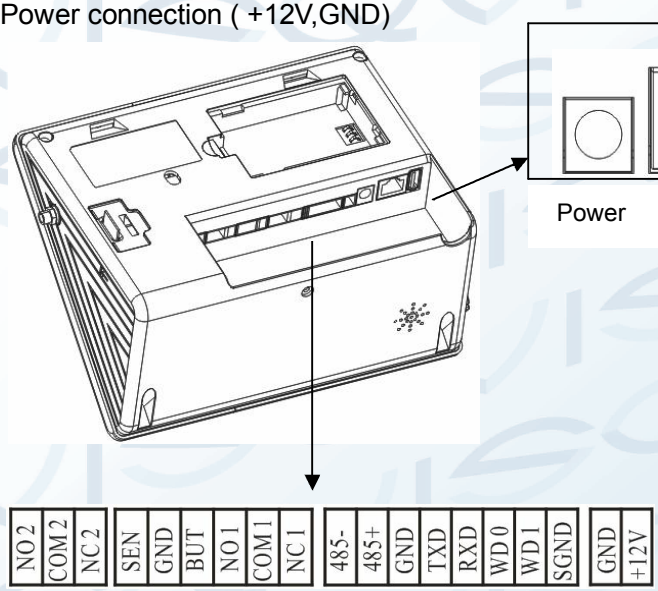


2 Installation

Caution: Do not connect peripheral equipment after the device has the power turned on to it, otherwise it is possible to badly damage the device.

Please follow instruction to connect peripheral equipment。

① Door sensor connection (Sensor, GND)
② Exit-button connection (Button ,GND)
③ Alarm connection (NC2,COM2,NO2)
④ Door lock connection (NC1,COM1,NO1)
⑤ Ethernet connection (RJ45-1, RJ45-2, RJ45-3,RJ45-6)
⑥ RS232 connection (232T,232R,GND)
⑦ RS485 connection (485A,485B)
⑧ Wiegand output connection (WD0,WD1,GND)
⑨ Power connection (+12V,GND)



The definition of terminal connections：

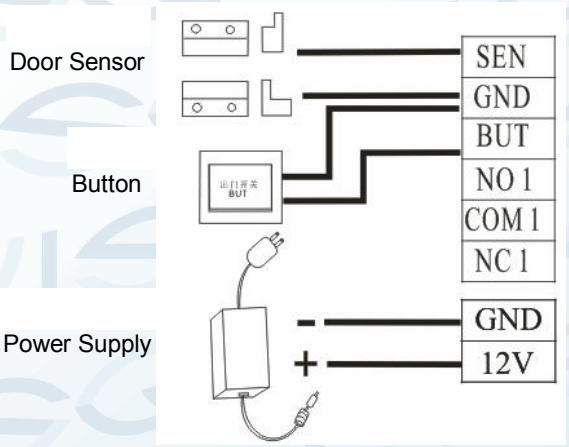
From left to right			
1	NO2	Connect to Cable Bell NO terminal	Tie up together
2	COM 2	Connect to Cable Bell COM terminal	
3	NC2	Connect to Cable Bell NC terminal	
4	Sens or	Connect to Door sensor	Tie up together
5	GND	For Door sensor and release button	
6	Butto n	Connect to Release button	
7	NO1	Connect to Lock NC terminal	Tie up together
8	COM 1	Connect to Lock COM terminal	
9	NC1	Connect to Lock NO terminal	
10	485-	Connect to RS485B	Tie up together
11	485+	Connect to RS485A	
12	GND	Connect to RS232 and Weigand GND	Tie up together
13	TXD	Connect to RS232 TXD	
14	RXD	Connect to RS232 RXD	
15	WD0	Connect to Weigand outWD0	Tie up together
16	WD1	Connect to Weigand outWD1	
17	SGN D	Connect to screen wire	
18	GND	Connect to Power GND	Tie up together
19	+12V	Connect to Power +12v	

2.1 Door sensor connection

The door sensor is used to detect the door open-close state. The terminal use the door sensor to monitor the door to see if it there has been any unauthorised entry. If the sensor detects any unauthorised entry then it will output an alarm signal, moreover, terminal can trigger a prompt warning if the door is not closed tightly.

2.2 Exit-button connection

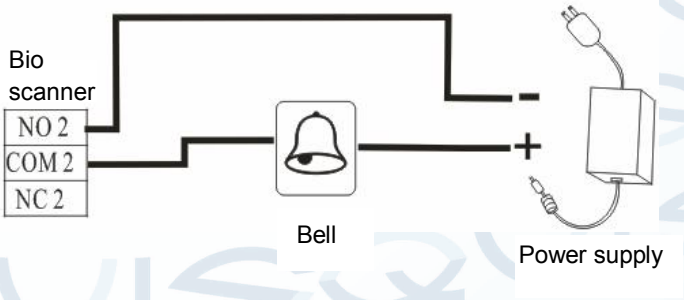
The exit-button is installed for open-door operation. When the switch is pressed/closed, the door will open. The maximum distance from ground to exit-button bottom is approximately 1400mm. Make sure that the exit-button position is aligned correctly, upright and the connection is accurate and reliable (the unused exposed end of cable should be cut off, and insulating tape should be used to cover it). Pay attention for any electromagnetic disturbances (obviously clues will be from any under par performances from other electrical devices near by.



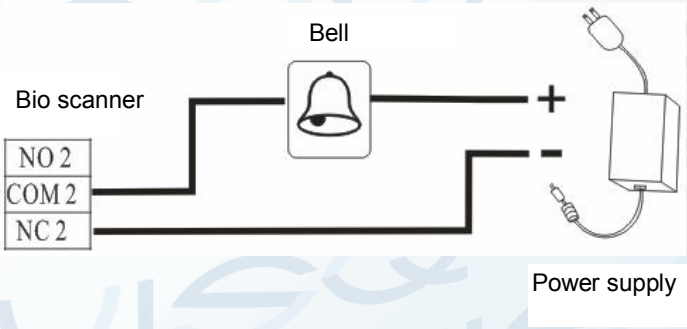
2.3 Time Ring connection

Connect the electrical bell to the fingerprint machine, when person(s) arrive at the appointed time, the fingerprint machine will send signal to trigger relay. The terminal supports both Normal-Open bells and Normal-Close bells at the same time.

①Normal-Open bells



②Normal-Close bells



2.4 Door lock connection

What type of door lock to install depends on the type of lock and install location.The internal resistance, which comes from long distance transfer, should be taken into consideration when selecting the electrical power cable. The door lock should be installed well enough to be reliable and stable. Ensure the wiring is correct. For the strike lock and electromagnetic lock you should pay attention to the positive and negative terminal connections. The unused bare end of wire should be cut off and have insulating tape to wrapped around it. The delay time of strike lock is adjustable according to different conditions.

Electric lock selection: it is better to use a strike lock for a two direction opening glass door (opens to inwardly or outwardly). For a single way opening wood door, we recommend using a magnetic lock. The magnetic lock is also called an electric magnetic lock. The magnetic lock is more reliable than the strike lock, but the strike lock is much safer than the magnetic lock. In a residential setting, it is better to use strike lock and magnetic force lock. The electric control lock gives out a higher noise; the electric control lock is commonly used in building communication. Now there is are soundless electric control locks available which are able to be applied. Please be aware that the lock is made of iron and easy rust, so you must avoid exposing it to water or harsh outdoor conditions.

Connect with electric lock. The Normal-Open lock is open when the power is on. The biometric scanner supports both kinds of lock at the same time. The lock connection method changes with the type of lock. For NO lock, the NO terminal will be used; for NC lock, the NC terminal will be used.

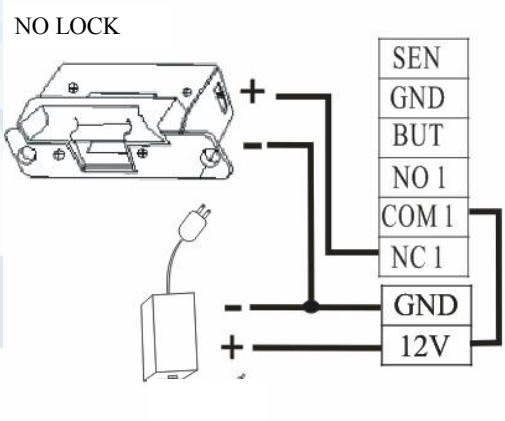
This access control machine is powered by DC12V and a working current of 400mA. If the lock's electric power is DC12V and the working current is less than 1000mA, the fingerprint machine and lock are able to be powered together by one adapter, please refer to table 1, 2 on the next page.

In the following three cases, we recommend that fingerprint machine and lock are powered separately.

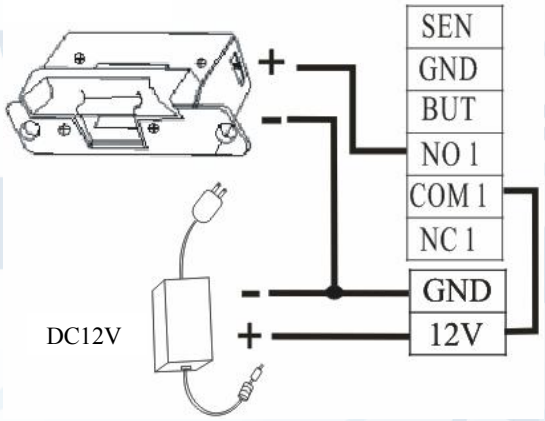
1)The working voltage of the lock is DC12V, but the current difference of the fingerprint machine and the lock doesn't exceed 1A.

2) The lock voltage is not DC12V.

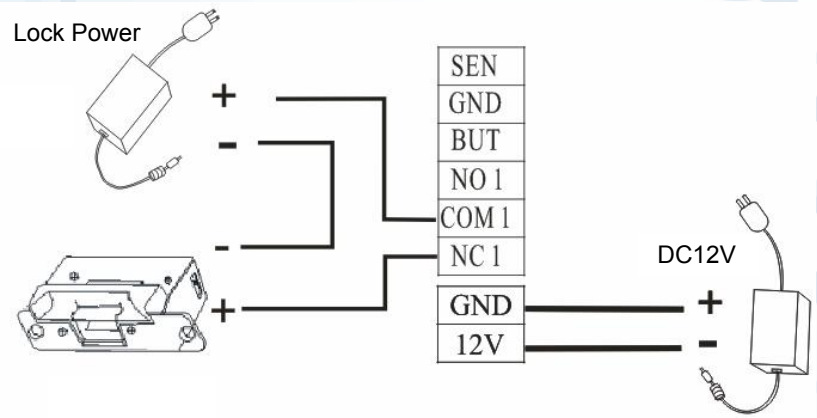
3) The distance between lock and fingerprint machine is too far.



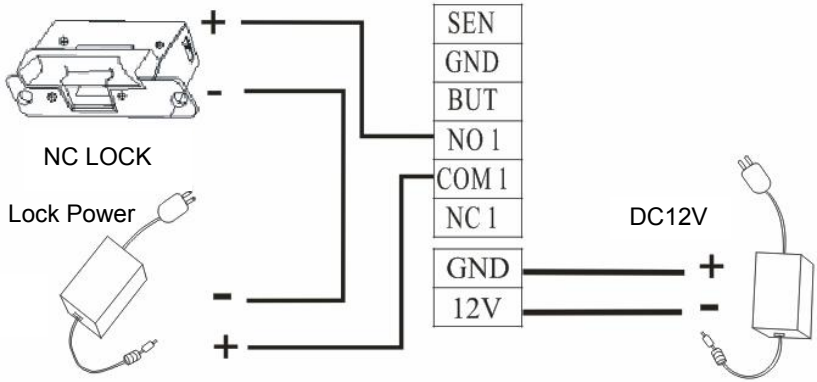
DC12V Picture1 Power by one supply NC LOCK



Picture2 power by one supply



Picture 3 The terminal and lock powered by independent adapters

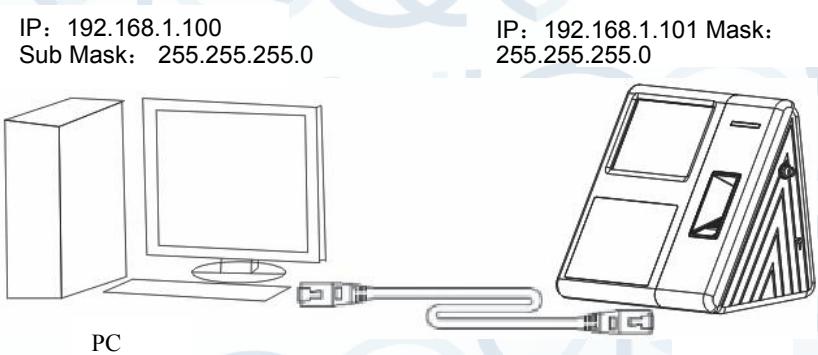


Picture 4 The terminal and lock powered by independent adapters

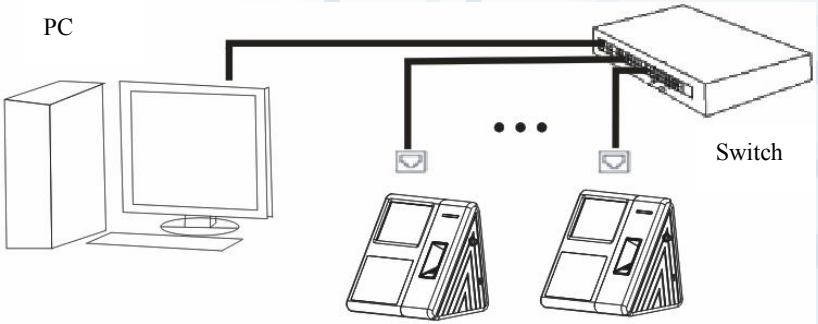
2.5 Ethernet connection

The terminal provides two ways to connect via Ethernet.

1）The terminal connected to the PC through a cross cable。



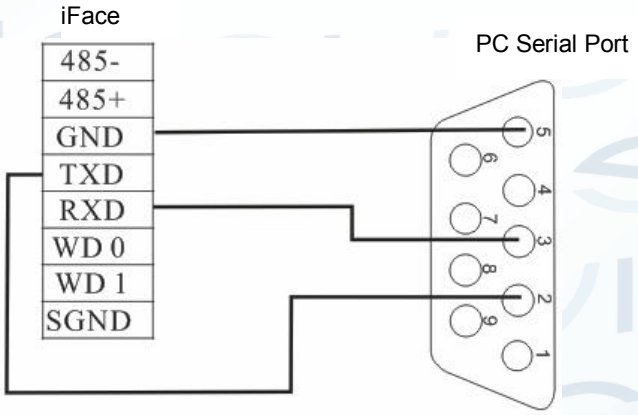
2）The terminal connected to the PC through a network and HUB , which creates a local network.



2.6 RS232 connection

The terminal connected to the PC using the RS232

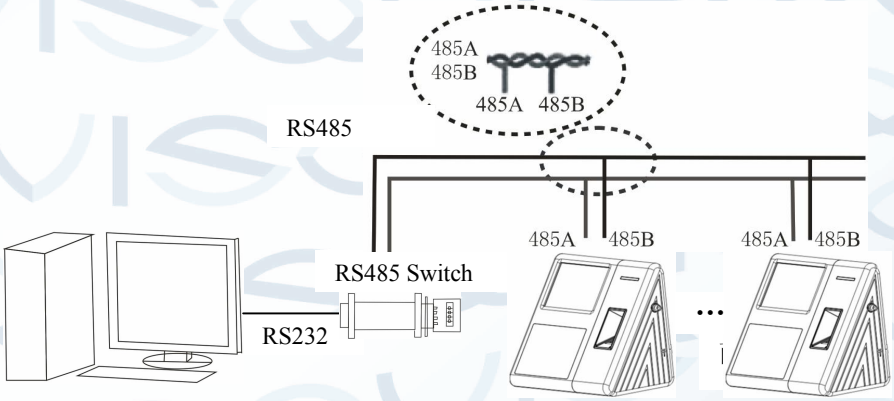
Note：*Do not upload or download facial module through RS232, because the large amount of data will effect the transfer speed.*



2.7 RS485 connection

The terminal connected to the PC through RS485

Note：Don't upload or download facial module through RS485 because the large data will effect the transfer speed.



2.8 Wiegand Output Connection

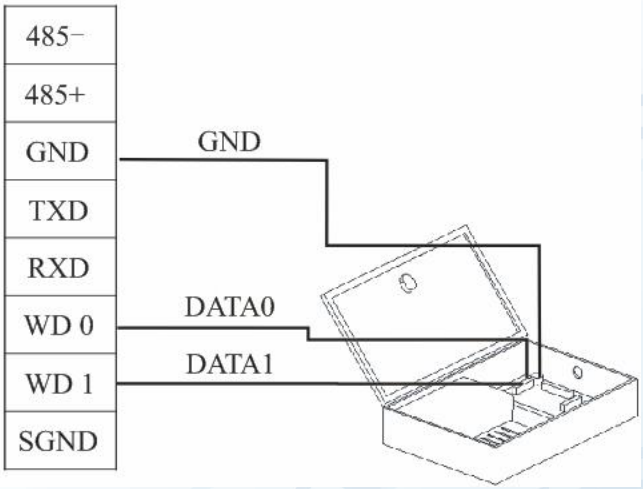
The device has a Wiegand output function that can connect to the majority of access controllers on the market, at this time it is used as a reader

Notes：

1）The distance between device and access controller or card reader should not be over 90 meters (If a longer distance is needed or there is interference in operational environment, please use the Wiegand signal delay.).

2) To ensure the stability of the Wiegand signal, the device must share the GND with controller or Weigand reader.

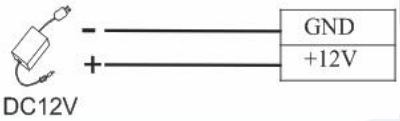
3) If the distance of Wiegand output or 485 communication is over 90 meters, in order to reduce the interference caused by the long distance, it is suggested to use the cable with shielding and connect the shielded cable to the SGND terminal.



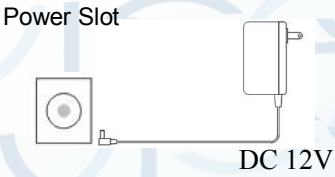
2.9 Power Connection

The device's working voltage is DC12V, with a working current of 500mA and a standby current 50mA. This is how to connect the power:

1. Terminal connection: make sure the connection as like the diagram (**Don't connect the poles in reverse.**).
2. Slot connection: Insert the plug of DC12V adapter into the power slot directly.



Terminal connection



Slot connection

3. Other functions

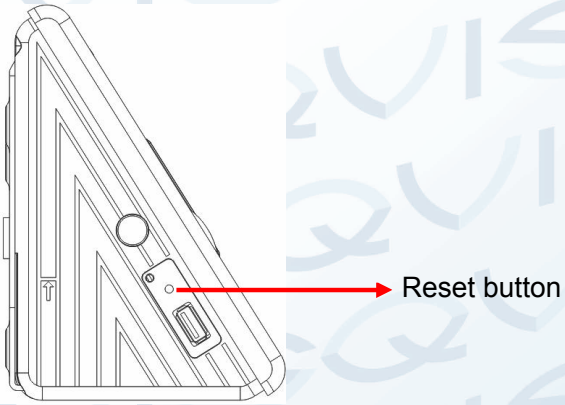
3.1 Reset

Due to operational error or other errors occuring from usage, which has lead to the machine not working, you can restart the machine through reset button。

① Take a small tool which has a diameter of no more than 2mm。

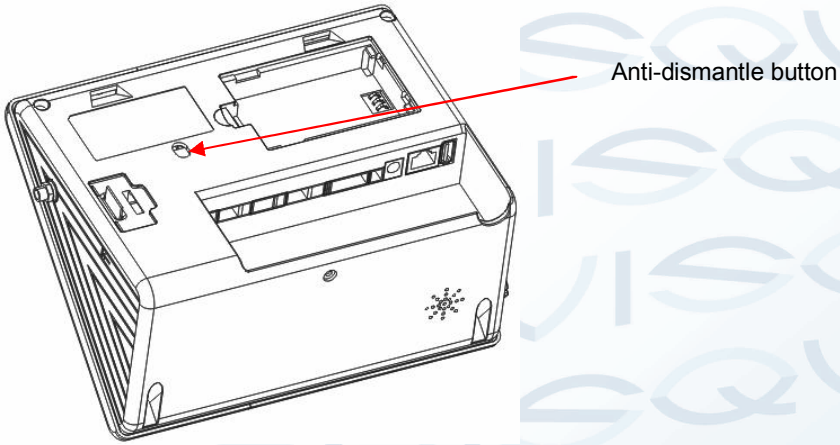
② Find the reset mark saying “res” (a small hole on the side of device), see the following figure below.

③ Use the tool to press into the hole then pull it out. The machine is able to restart.



3.2 Anti-dismantle button

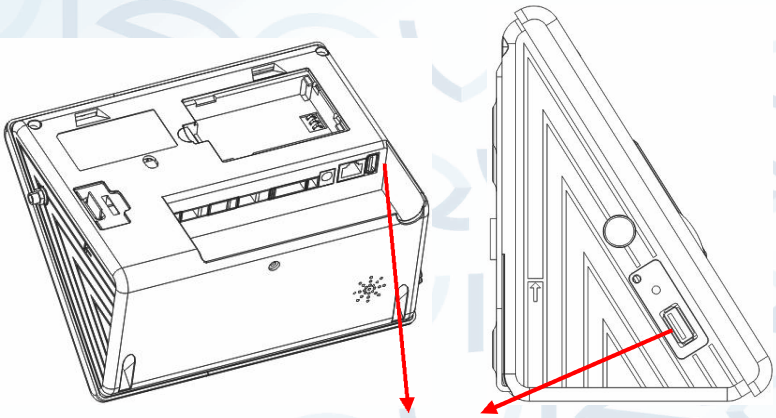
The Anti-dismantle button is on the middle of the device, it is located on the back-cover and works by pressing the anti-dismantle button in. When the device is being dismantled, the button will be released and the machine it will send a alarm signal through the terminal.



3.3 Using the USB U Flash disk

① There is a mini USB port, please see figure circled on the next page.

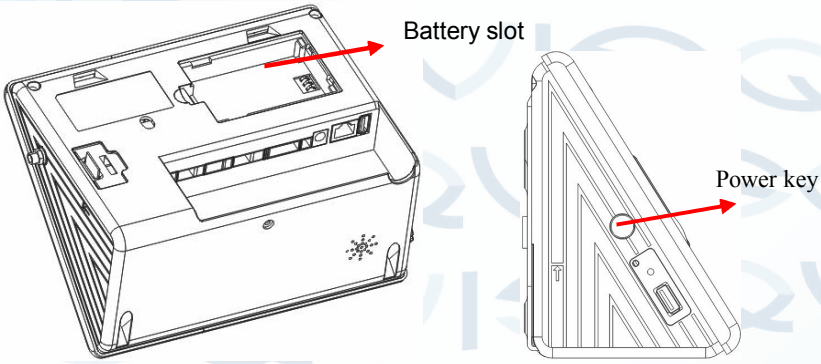
② The USB port can be used to upload and download data to the U disk.



3.4 Reserve Battery

Working principle

Before use, make sure the reserve battery is installed properly. Whenever using the power supply or reserve battery, you need to press the power key to turn on the terminal. In its normal state, When the power cut down, the reserve battery will switch into the discharge state to power on the terminal, In power off state, when the power cut down, the reserve battery will not switch into the discharge state to power on. If you want to power on the terminal, you need press the power key to turn on the terminal.



Technical parameter：

Charge time	Less than 4 H	Discharge time	More then 5.5 H
Working environment	0℃～50℃	Relative humidity	10％～90％
Storing environment	Please store the battery when the discharge capacity is full.,and the environment is 20℃±5℃。		
Cycle age	Cycle times of charge and discharge≥300 times		

Notice：

There is a danger of the battery exploding, leaking, running very hot, fire, physical damage, if you don't read the notice carefully:

⚠ Do Not throw batteries into a fire；

⚠ Do Not use battery if ambient temperature is above 50℃；

⚠ Do Not inverse polarity connection；

⚠ Do Not put the battery into water or let it to get wet； Do Not use and store battery near a heat-generating machine (such as a radiator or heater)；

⚠ Do Not use a wire or other metal to short the positive and negative terminal.