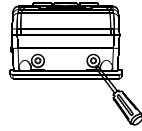
 **Note:** Registering user information and fingerprint via ZKAccess3.5 or Management Card.

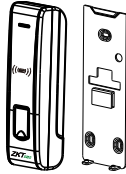
1. Equipment Installation



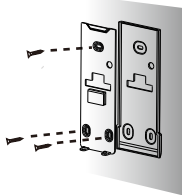
(1) Paste the mounting template on the wall. Drill the holes according to the marks on the template (holes for screws and wiring).



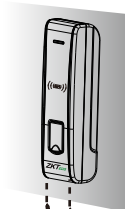
(2) Remove the screws on the bottom of device.



(3) Take away the back plate.



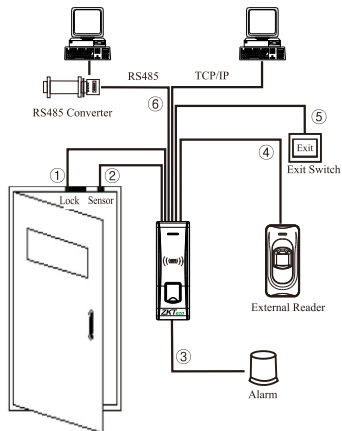
(4) Fix the rubber pad and the back plate on the wall according to the mounting paper.



(5) Place the unit onto the mounting bracket, and tighten the screws at the bottom of the unit.

Note: To effectively protect the device from water and dust, F16 must be installed vertically perpendicular to the ground.

2. Structure and Function



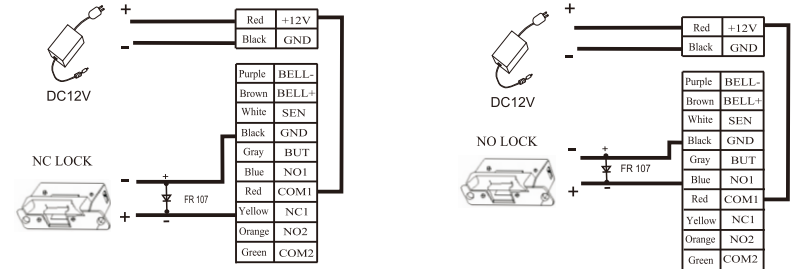
Access Control System Function

- (1) If a registered user verified, the device will send a signal to unlock the door.
- (2) The door sensor will detect the ON-OFF state. If the door is unexpectedly opened or improperly closed, the alarm signal (digital value) will be triggered.
- (3) If the device is illegally removed, the device will signal the alarm.
- (4) External card reader is supported.
- (5) External exit button is supported.
- (6) Supports RS485, TCP/IP communication to be able to connect with a PC. One PC can manage multiple devices.

3. Lock Connection

- (1) The system supports NO lock and NC lock. For example the NO lock (normally open at power on) is connected with "NO" and "COM" terminals, and the NC lock is connected with "NC" and "COM" terminals.
- (2) When the electrical lock is connected to the Access Control System, you need to connect one FR107 diode (shipped in package) in parallel with the connection to prevent self-inductance EMF feedback the system. **NB: Do not reverse the polarities!**

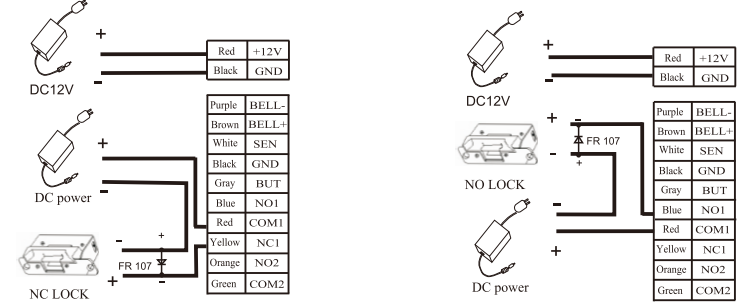
1) Share power with the lock:



Device share power with the lock:

ULOCK=12V, I-ILOCK>1A.....⊙; And the distance between the lock and the device is ≤ 10 meters.

2) Does not share power with the lock:



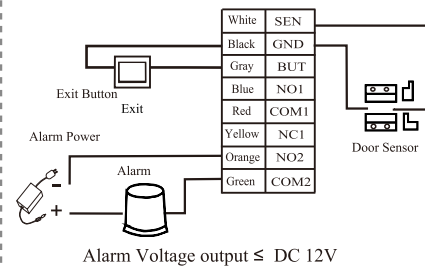
Device does not share power with the lock:

A. ULOCK=12V, I-ILOCK≤1A; B. ULOCK≠12V; C. The distance between the lock and the device is >10 meters.

D. We suggest user does not share power with the lock.

⊙: 'I': device output current, 'ULOCK': lock voltage, 'ILOCK': lock current.

4. Other Connections



5. Power Connection

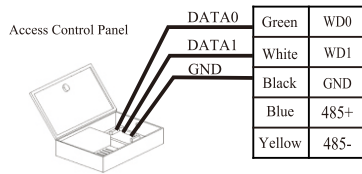
The device working voltage DC 12V, electric current 500mA (50mA for standby current). Positive is connected with '+12V'; negative is connect with 'GND' (**do not reverse the polarities**).



 **WARNING: Do Not operate with Power connected.**

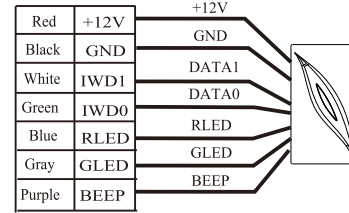
6. Wiegand Output

The device supports standard Wiegand , 26-bit output, so you can connect it with various access control devices.



7. Wiegand Input

The device has a Wiegand input port, which enables the connection to a slave card reader. Devices are control devices on both sides of the door to control the access and electric lock.



- (1) Do not exceed 90m (meters) distance between the Device and Access Control Lock OR Card reader. (In the case of long distance installation, use the Wiegand Signal Extender, to minimise interference.)
- (2) To keep a balanced and stable Wiegand signal, connect the device, access control lock or card reader on the same "GND"(ground) port.

8. Other Functions & Features

(1) Tamper Function:

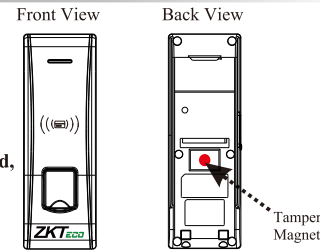
When installing device, user need to put the magnet between the device and the back plate. If the device is being illegally removed, the magnet loses connectivity and will trigger the alarm.

(2) Restore Factory Settings:

Operation: Between 30 – 60 seconds after the tamper alarm has sounded, press the tamper switch 3x times.

(3) Device mould is manufactured from fireproof material.

(4) Working temperature: 0°C ~ +45°C (32°F~113°F).



9. Communication

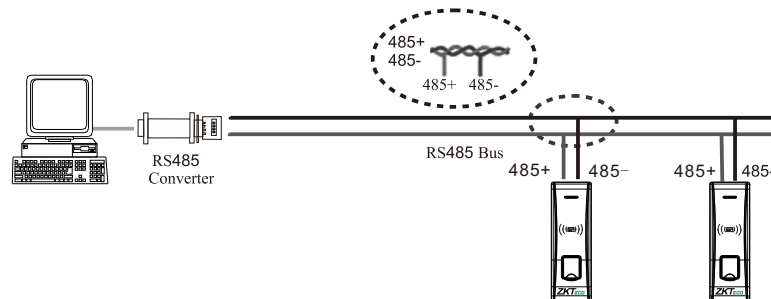
There are two modes that the PC software communicate and exchange information with the device: RS485 and TCP/IP, and supports remote control.

(1) RS485 Mode:

Please use specified RS485 wire, RS232/485 active converter, which consists of bus-type wiring. If the communication wire is longer than 100 meters, you need to parallel a terminal resistance on the receiving end, and resistance value is about 120 ohm.

Terminals definition as below:

Terminals	PC Serial Ports
485+	RS485+
485-	RS485-



* Reserves the final rights of modification and interpretation by our company.

RS485 Reader Function:

Equipment supports RS485reader function, can be through RS485communication connected to FR1200 reader. FR1200 reader for slaver, achieve RS485 Anti-passback functions. If select "RS485reader function", so device can not connect with PC through RS485 communications.

Diagram of the device connect to reader as below(The device act master):

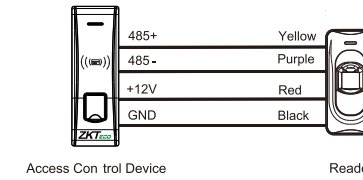
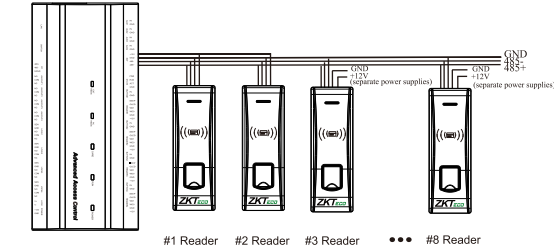


Diagram of the device connect to controller as below (The device act slaver):



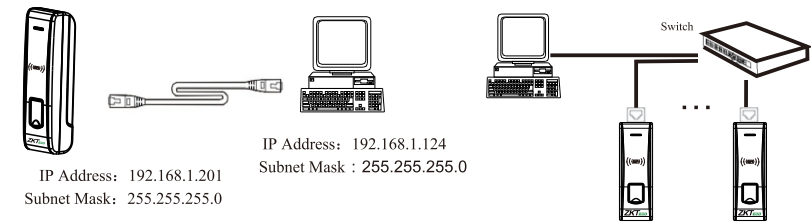
Set the RS485 address (device number) by ZKAccess.3.5 software.

(2) TCP/IP Mode:

Two ways for TCP/IP connection.

(A)Crossover cable: The device and PC connected directly.

(B)Straight cable: The device and PC connected to LAN/WAN through switch/Lanswitch.



10. Caution

- (1) **Connect the power cable after al the wiring has been completed.** If the device is working abnormally, please shut down the device, and make necessary checks. Please note that any "HOT SWOP" of wiring on the device may damage the device, and the warranty does not cover damage caused by improper operations.
- (2) We recommend **use the DC 12V/3A power supply.** Please contact our technical staff for details.
- (3) **Please read the terminal and wiring description and diagrams carefully before commencing with installations.** Any damage to the device caused by improper operations, will not be covered under warranty.
- (4) **Keep the exposed part of wire less than 5mm,** to avoid unexpected connection.
- (5) **Please connect the 'GND'** when starting installations, especially in an environment where static electricity is very high.
- (6) **Do not change the cable type** in case of a long distance installations.

WARNING: Do Not operate with Power connected.