ZKSoftware
Advanced Biometric and RFID Solutions

C3-460 Installation and Connection Guide

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1. Cautions

⚠ Please pay attention to the following items. Mis-operation may lead to equipment failure even the personal injury.

1) Do not power on the system before the installation is completed. Do not carry on the install or repair operation at power on state.

2) All external devices must be grounded.

3) It is recommended that all wires should run through PVC or galvanized pipes.

4) We recommend that the exposed part of all wires should be shorter than 4 mm, to avoid short circuit or communication failure caused by unexpected contact of exposed wires.

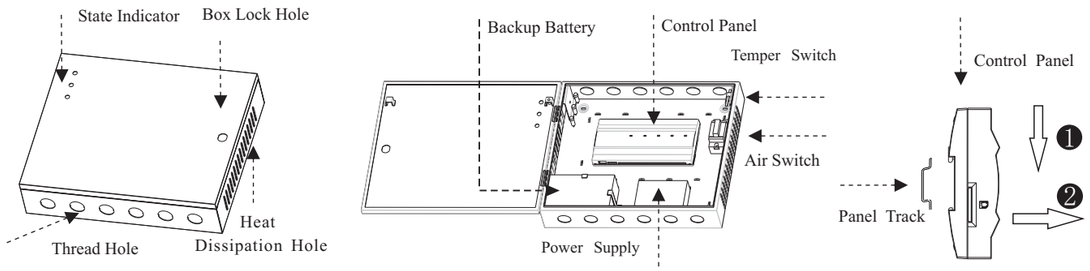
5) It is recommended that the card reader and exit button should be installed at height about 1.4-1.5m.

6) It is recommended to use the separated power supply for the control panel and the lock.

Description of normal working state:

Power on the system . In normal working state, the power (red) and run indicator (yellow) is on constantly, and the communication indicator (green) flashes.

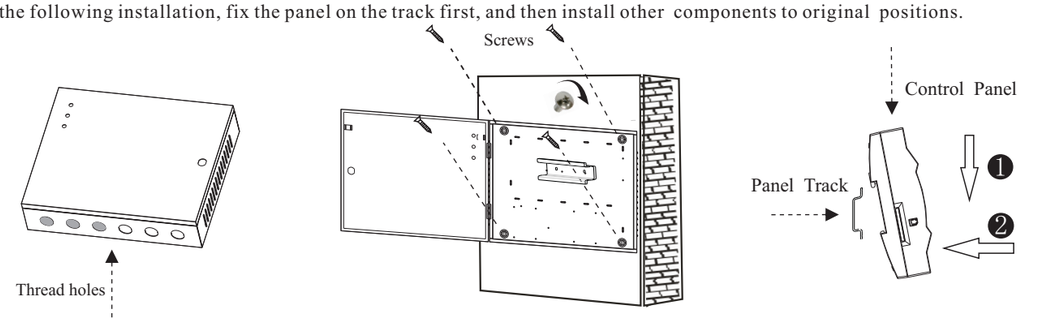
2. Components



Appearance of Panel Box **Internal of Panel Box** **Get the Panel off the track**

3. Installation

After the following installation, fix the panel on the track first, and then install other components to original positions.



1) Get through the thread hole ➡ 2) Fix the box ➡ 3) Install other components

4. LED Indicators and Wire Illustration

Notes:

1) Meaning of LED indicators:

LINK indicator (green): Light always indicates TCP/IP communication is proper;

ACT indicator (yellow): Flash state indicates the data is in transmitting through TCP/IP communication.

EXT RS485 indicator (yellow&green): Flash state indicates it is sending or receiving data through RS485 communication.

PC RS485 indicator (yellow&green): Flash state indicates it is sending or receiving data through RS485 communication.

POWER indicator (red): Light always indicates the control panel is power on.

RUN indicator (green): Flash state indicates the system works normally.

CARD indicator (yellow): Flash state indicates card is punched on reader.

2) Recommended use of wires:

A. Use 2-conducotor power cord.

B. Use 6-conductor wire between Wiegand reader and control panel (RVVP 6*0.5mm) (To choose the proper cord according to the interface you connect, such as 6, 8, 10 cord.)

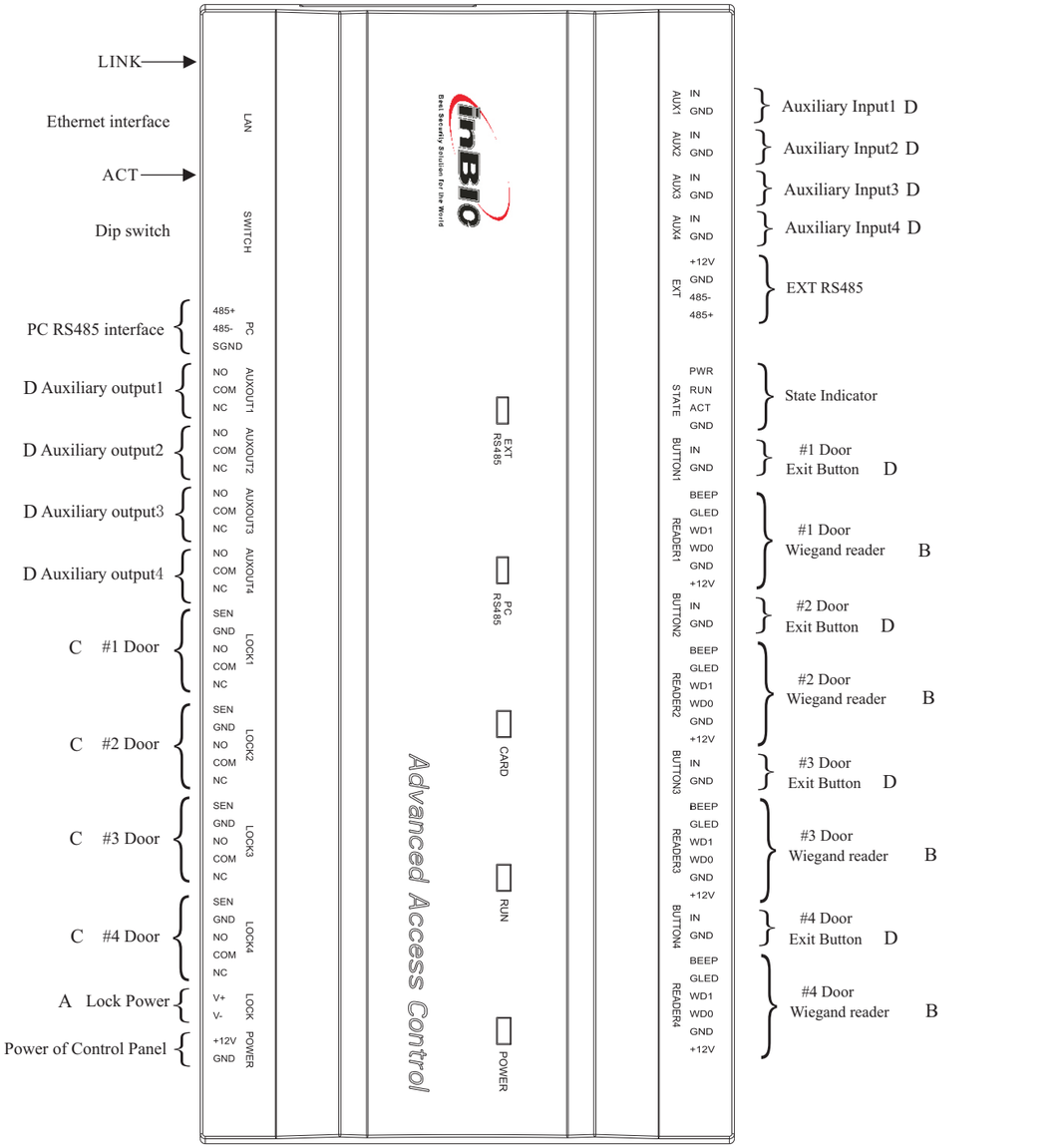
C. Use 4-conducotor lock power cord (RVV 4*0.75mm)

D. Use 2-conducotor switch power cord (RVV 2*0.5mm)

3) The auxiliary input may be connected to infrared body detectors, alarm switches, etc.

4) The auxiliary output may be connected to door bells, alarms, etc.

5) State Indicator is connected to the panel box, that is power indicator, run status indicator and communication status indicator.



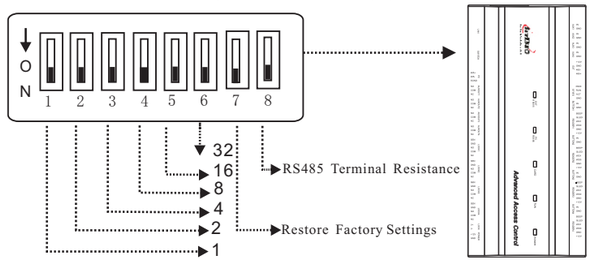
5. DIP Switch Settings

1) Number1-6 switch are used to set the control panel number in RS485 communication: It is adopted binary coding and little endian, the address number setting by place these 6 switches are shown as figure below. Before setting the address, please keep the system power off. Place the corresponding switches to the desired status, and the address number should not be repeated in the network.

For example: Set the device number as 39 (39=1+2+4+32), the switches status is 111001, that is set number 1, 2, 3 and 6 switches at "ON".

2) Number7 switch is used to restore factory default settings: Switch it for three times within 10 seconds and restart the system, then all data in control panel will be cleared and the system restores factory default settings.

3) Number 8 switch is used to set terminal resistance in RS485 communication: Switch it to"ON" status, that is add a terminal resistance of 120 ohm between 485+ and 485-.



6. Lock Connection

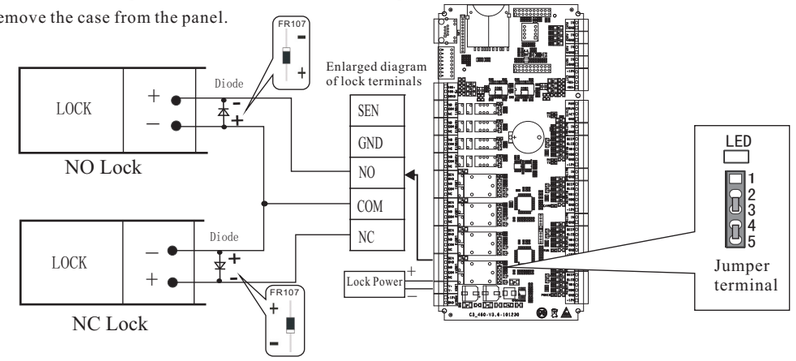
1) The control panel provides lock control output interfaces. For NO lock, it is normal open when power is on, so COM and NO terminals should be used. For NC lock, it is normal closed when power is off, so COM and NC terminals should be used.

2) The control panel supports "dry mode" and "wet mode" by using the jumper. It is recommended to use "wet mode" when you connect "V+" and " V-" terminals for lock power supply. That is short 2-3 and 4-5 terminals. The factory default setting is dry mode. For "dry mode" and "wet mode" settings, please refer to the Access Control Panel Installation Guide.

3) When the Electrical Lock is connected to the access control system, you need to parallel one FR107 diode (equipped in the package) to prevent the self-inductance EMF affecting the system, do not reverse the polarities.

The following is the lock connection of "wet mode" with external power supply .

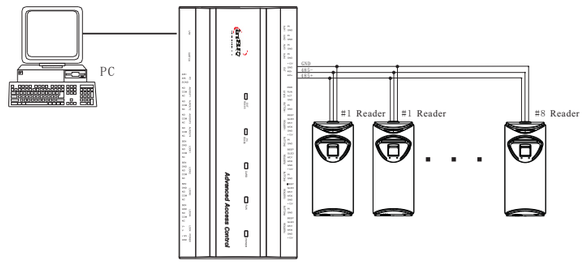
Stick the screw driver to the rectangular hole on the four corner of the panel back, switch it from outside to inside. After hearing the "click" sound, you can remove the case from the panel.



7. 485 Reader (inBIO Reader) Connection

The control panel supports inBIO biometric verification reader and Wiegand reader. In use of inBIO reader, all operations including storage, verification, etc. execute in control panel. No need to re-register the fingerprints for reader changing. Realize the real biometric reader connection.

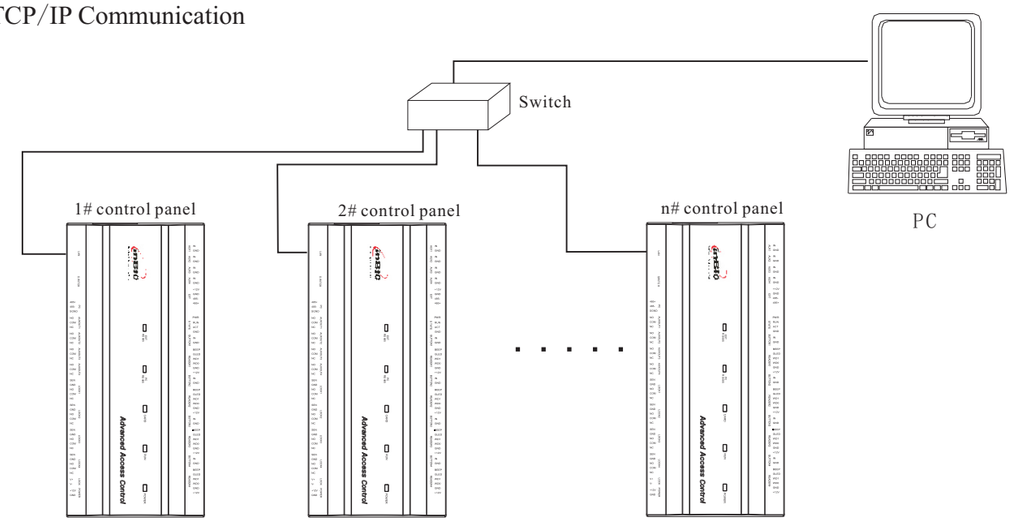
485 reader connection: First of all, set the 485 address (device number) of reader by software, DIP switch or keypad method. Such as the reader 1, 2 (the odd number is for enter reader, and the even number is for exit reader), the 485 address is 1, 2, and the door number is 1. Such as the right figure connection. For more information, please refer to the software user manual.



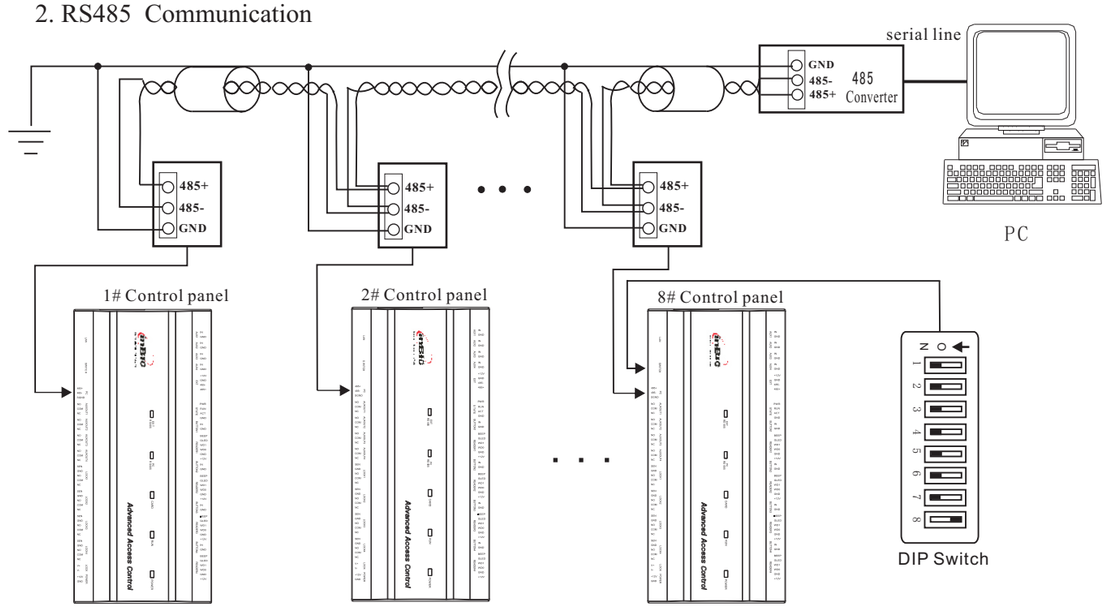
8. Equipment Communication

⚠ The PC software can communicate with the panel according to the communication protocols (RS485 and TCP/IP) for data exchange and remote management. The communication cable should be away from high-voltage lines as far as possible. Do not keep the communication cable in parallel with power cords or bind them together.

1. TCP/IP Communication



2. RS485 Communication



Notes:

1) Internationally accepted RVSP (shielded twisted-pair) wires should be used for communication to effectively avoid interference. RS485 communication wires should be connected by means of bus cascade connection.

2) Considering stability of communication, it is recommended that the RS485 bus should be less than 600 meters.

3) One RS485 bus may hold 63 control panels, but it is not recommended to connect with less than 32 access control panels.

4) When EXT485 terminals connected with inBIO Reader, it is recommended that the wire should be less than 100 meters.

5) When the wire is longer than 300 meters, to enhance the stability of communication, it is necessary to keep number 8 switch of the first and the last control panel at "ON" status. That is add the RS485 terminal resistance (120 ohm) of the two devices to the system. As shown in the figure above, turn number 8 of the DIP switches of the 1# and 8# at "ON" status.