

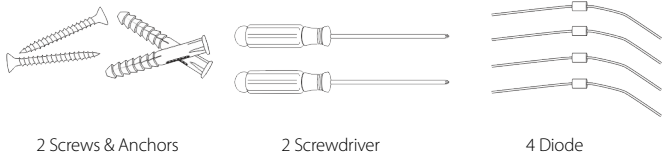
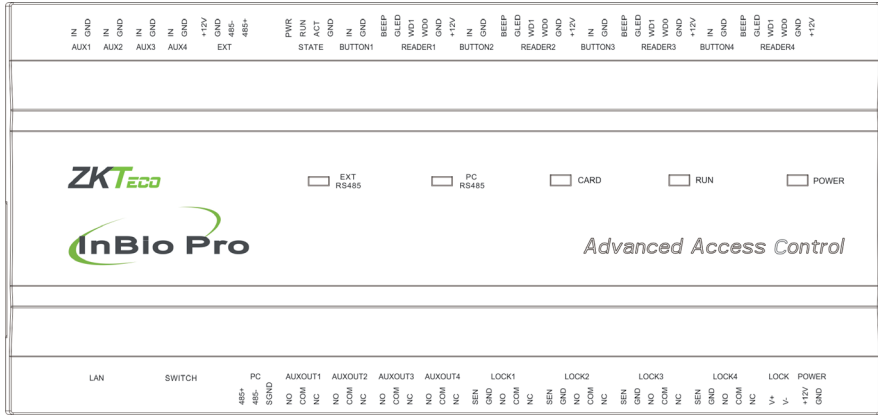
INSTALLATION GUIDE

InBio Pro Series Access Control Panels

Date: Dec., 2015

Version: 1.1

What's in the Box



2 Screws & Anchors

2 Screwdriver

4 Diode

CONTENT

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ZKBioSecurity Software

Optional accessories



Wiegand Card Reader



Prox Card



RS485 Convertor



K2 Exit Button



ZK4500 Enrollment reader



CR20E Card Enroller













RS485 Fingerprint Reader



InBio Pro Cabinet

Safety Precautions

The following precautions are to keep user's safe and prevent any damage. Please read carefully before installation.

-   **Do not** install the device in a place subject to direct sun light, humidity, dust or soot.
-  **Do not** place a magnet near the product. Magnetic objects such as magnet, CRT, TV, monitor or speaker may damage the device.
-  **Do not** place the device next to heating equipment.
-  **Be careful** not to let liquid like water, drinks or chemicals leak inside the device.
-  **Do not** let children touch the device without supervision.
-  **Do not** drop or damage the device.
-  **Do not** disassemble, repair or alter the device.
-  **Do not** use the device for any other purpose than specified.
-  **Clean** the device often to remove dust on it. In cleaning, do not splash water on the device but wipe it out with smooth cloth or towel.

Contact your supplier in case of a problem.

Product PIN Diagram

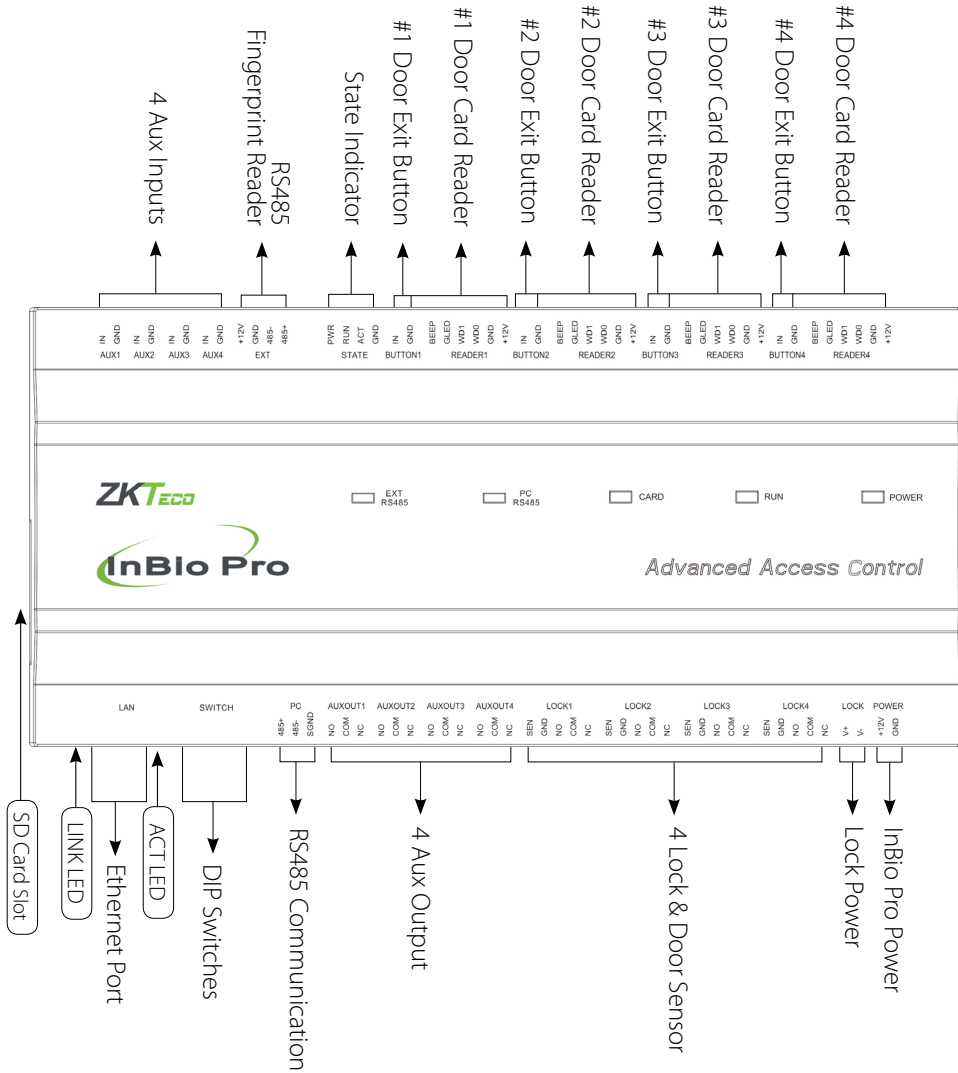


Figure 1

LED Indicators

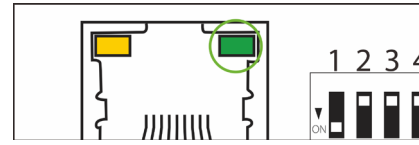


Figure 2

LINK Solid Green LED indicates TCP/IP communication is normal.

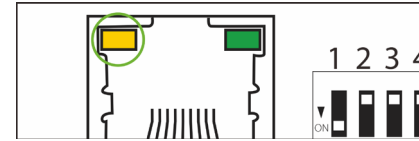


Figure 3

Flashing (ACT) Yellow LED indicates data communication is in progress.

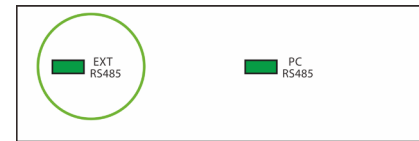


Figure 4

EXT RS485 (TX/RX) Flashing Yellow & Green LED indicates communication is in progress.

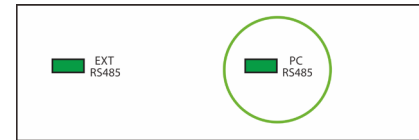


Figure 5

PC RS485 (TX/RX) Flashing Yellow & Green LED indicates communication is in progress.



Figure 6

Flashing (POWER) Red LED indicates the panel is powered on.



Figure 7

Flashing (RUN) Green LED indicates that panel is in normal working state.

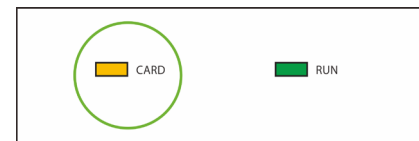


Figure 8

Flashing (CARD) Yellow LED indicates that the card is read by the panel.

Product Dimension

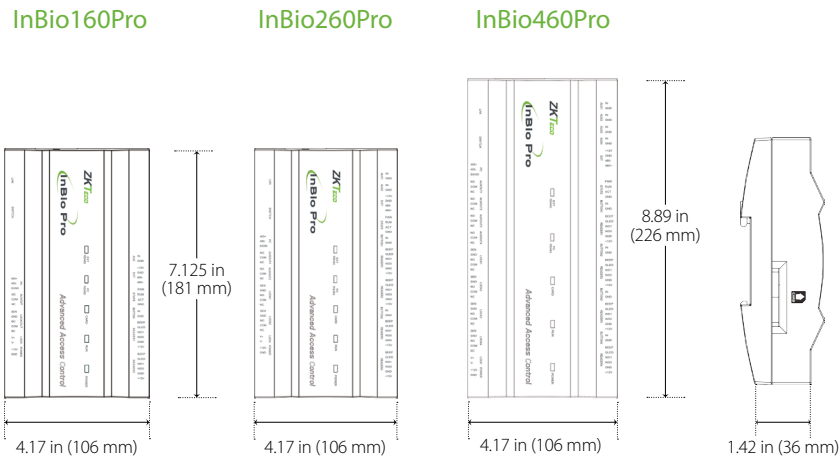


Figure 9

InBio Pro- Metal Cabinet

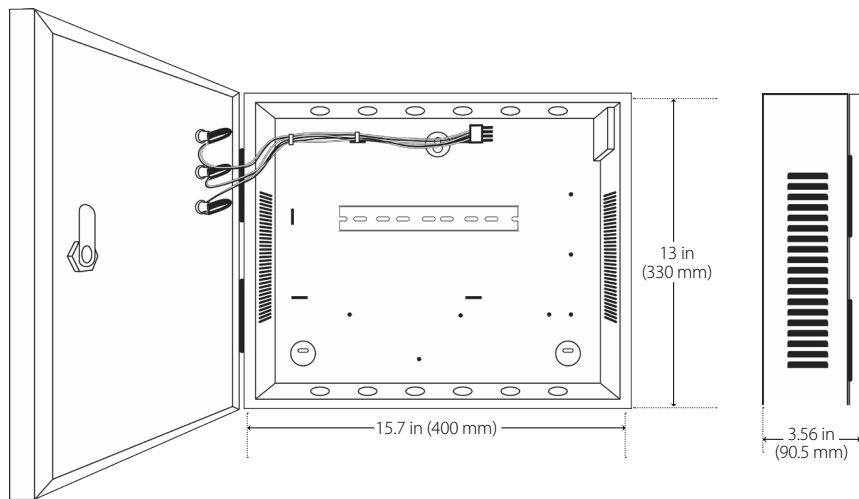


Figure 10

Installation of Panel & Cabinet

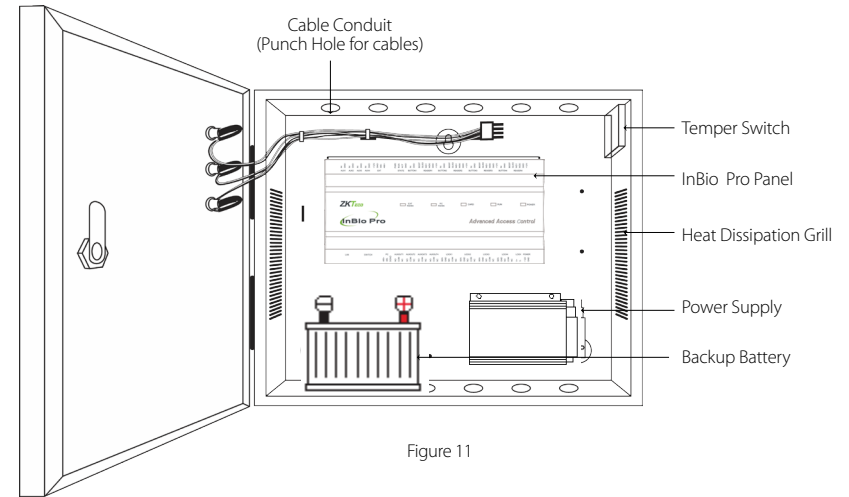


Figure 11

Step 1

Pass the cable through holes

Step 2

Mount the Metal Cabinet

Step 3

Insert the InBio Pro Panel as it shown

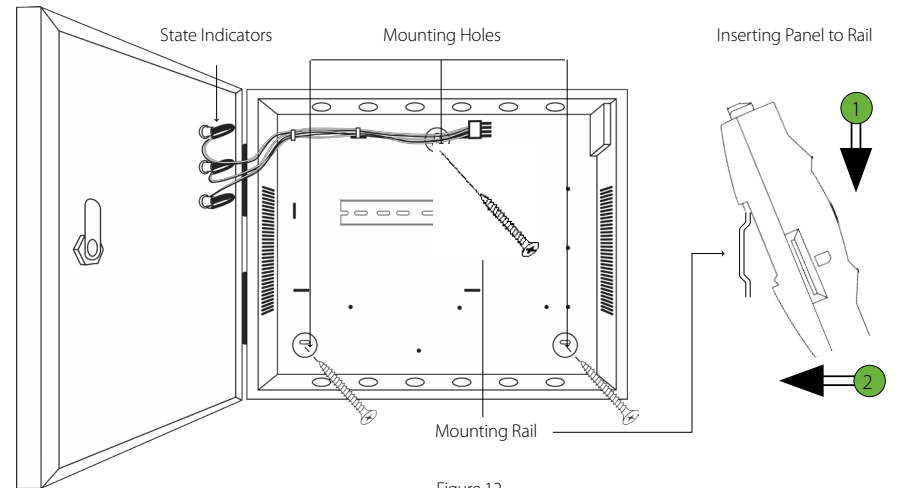


Figure 12

We recommend drilling the mounting plate screws into solid wood (i.e. stud/beam). If a stud/beam cannot be found, then use the supplied drywall plastic mollies (anchors).

Wiring Legend

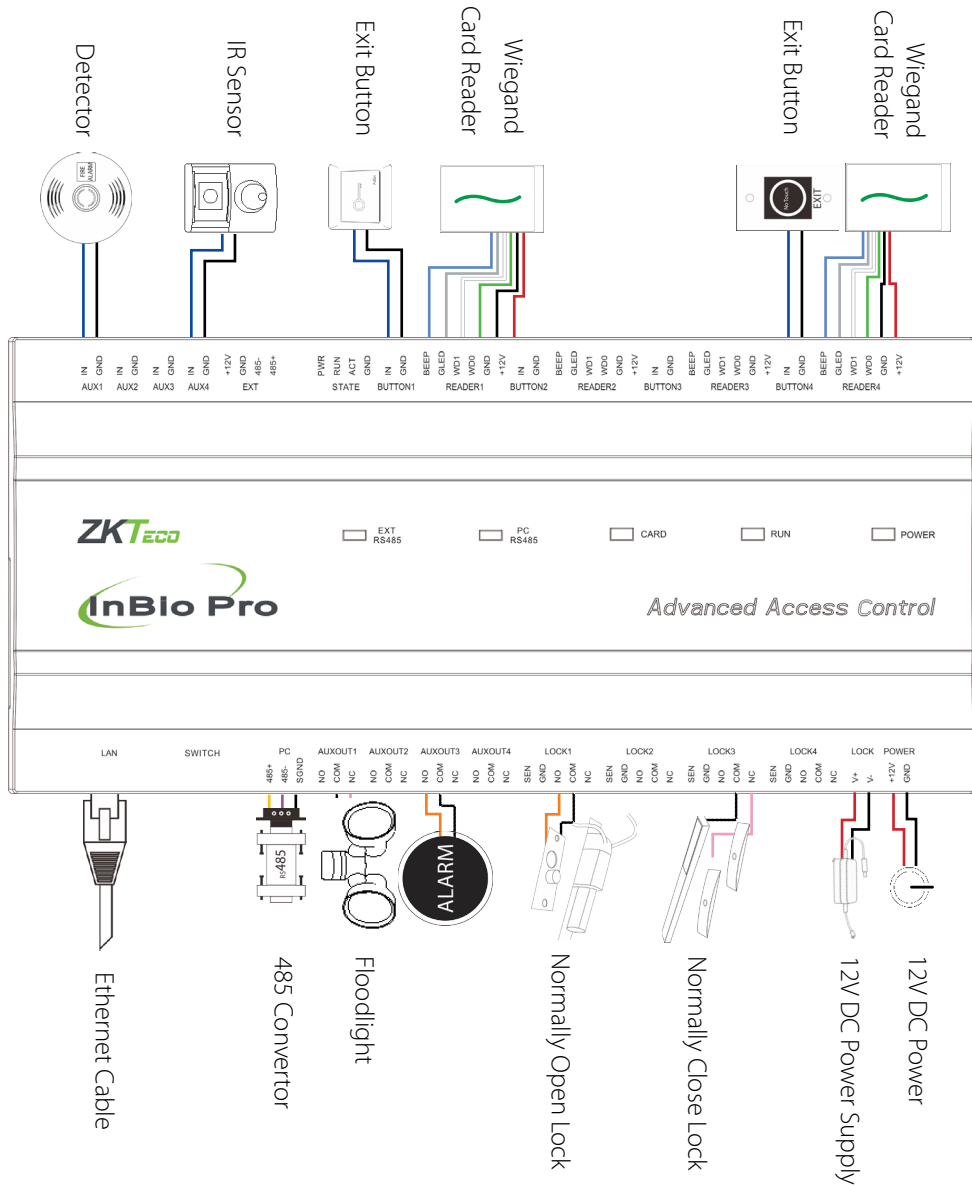


Figure 13

Power Wiring Diagram

Without Backup Battery

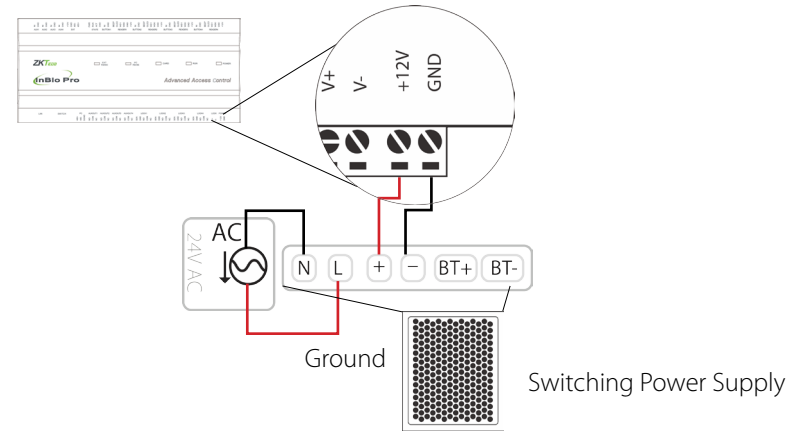


Figure 14

With Backup Battery

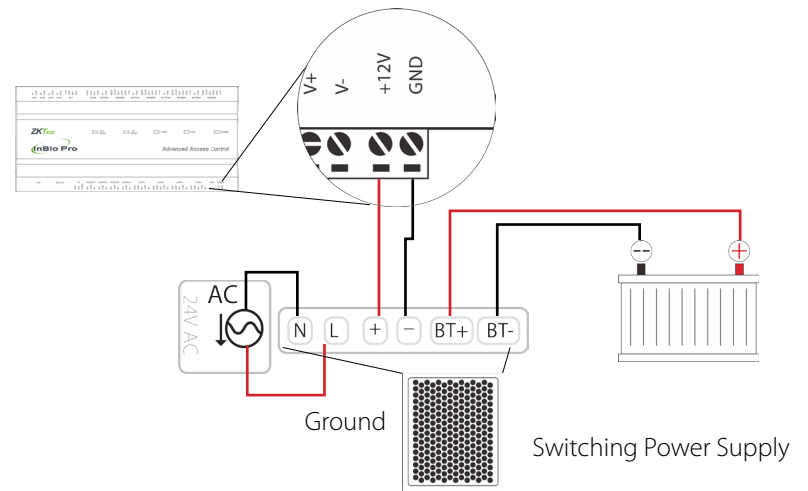


Figure 15

RS485 Fingerprint Reader Connection

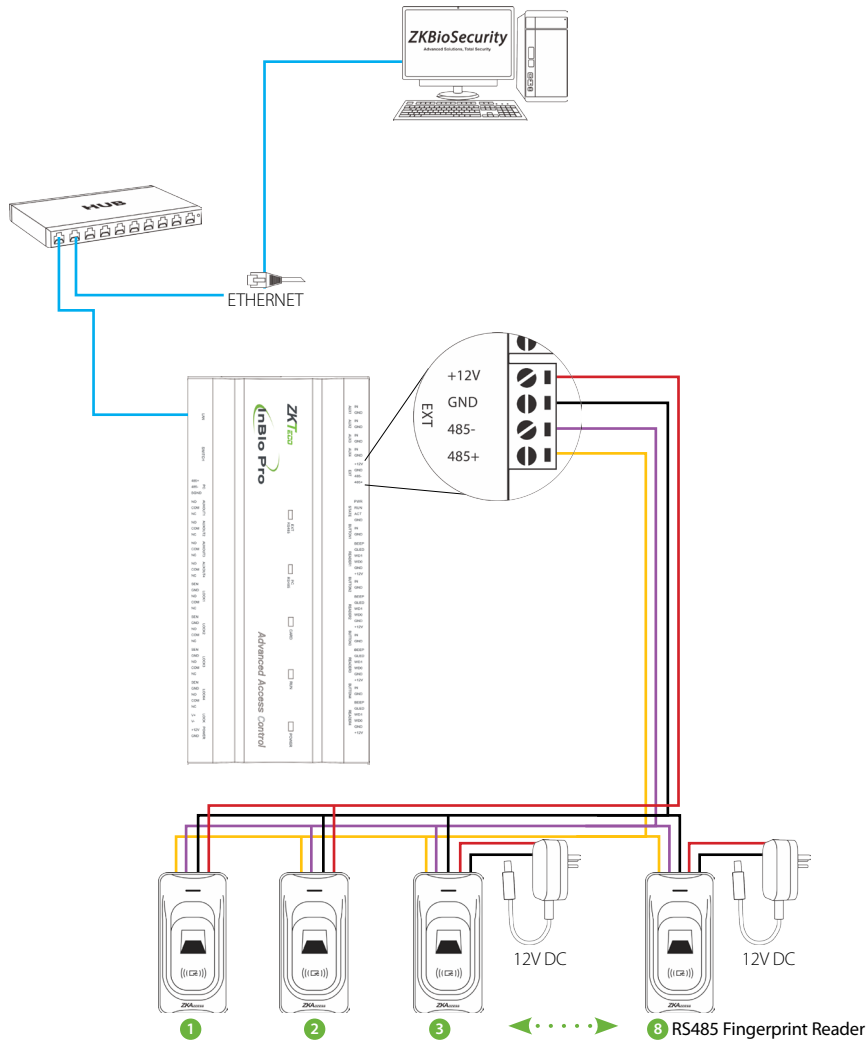


Figure 16

DIP Switch Setting for RS485 Reader

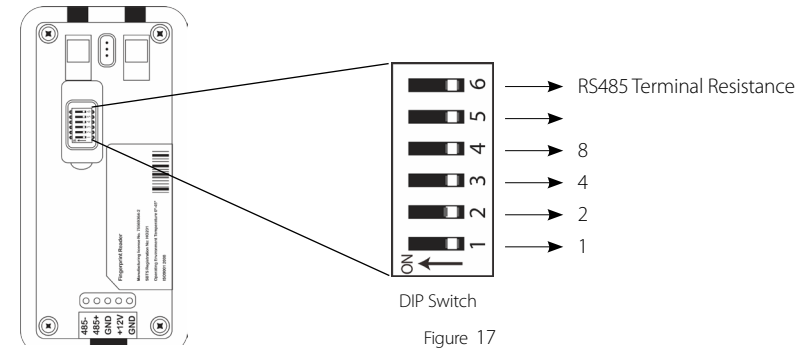
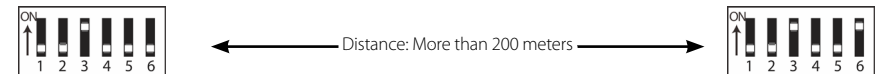


Figure 17

Address	Switch Settings	Address	Switch Settings
1		5	
2		6	
3		7	
4		8	

Important Notes

- There are six DIP switches on the back of RS485 fingerprint reader, Switches 1-4 is for RS485 address, switch 5 is reserved, switch 6 is for reducing noise on long RS485 cable.
- Set the odd number for IN reader, and the even number for OUT reader (for eg. For two readers for one door- the RS485 address 1 is for IN reader, RS485 address 2 is for OUT reader)
- If RS485 fingerprint reader is powered from InBio460Pro panel, the length of wire should be less than 100 meters or 330 ft.
- The External RS485 interface can supply maximum 500mA current, The RS485 fingerprint reader's startup current is 240mA. So InBio-460Pro only can power two RS485 fingerprint readers.
- If the cable length is more than 200 meters or 600 ft, the number 6 switch should be ON as below:



Wiegand Connection

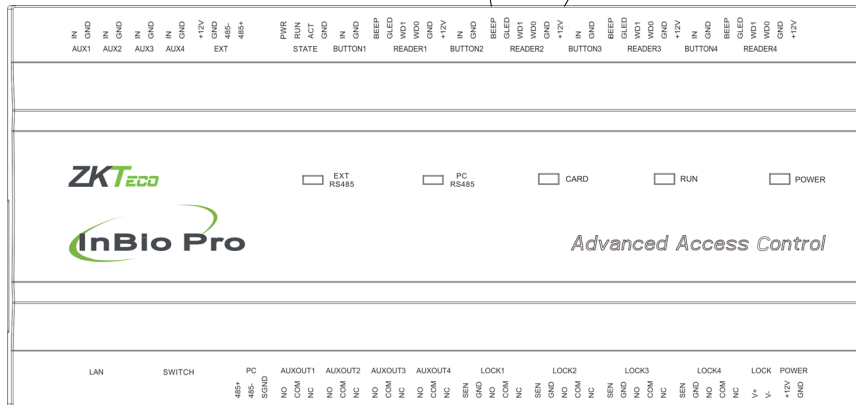
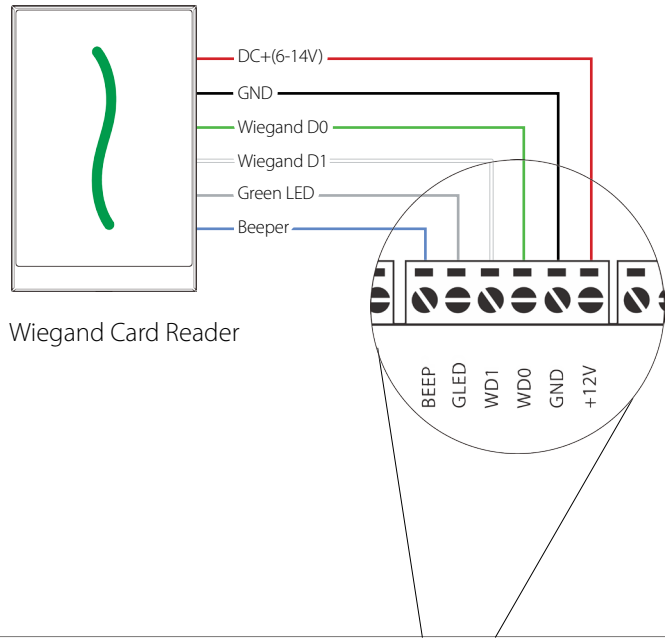


Figure 18

REX Connections

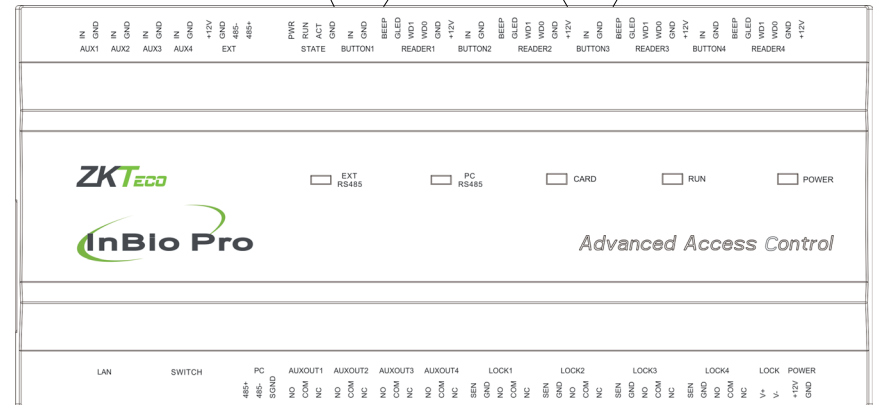
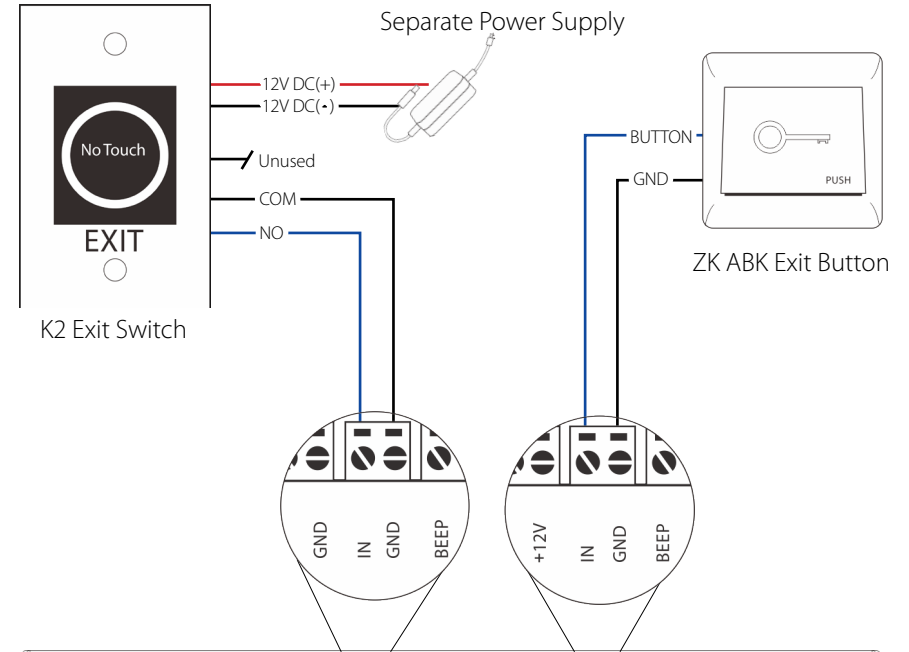


Figure 19

Lock Connection

Connecting a Lock with External to Power Supply (Dry Contact)

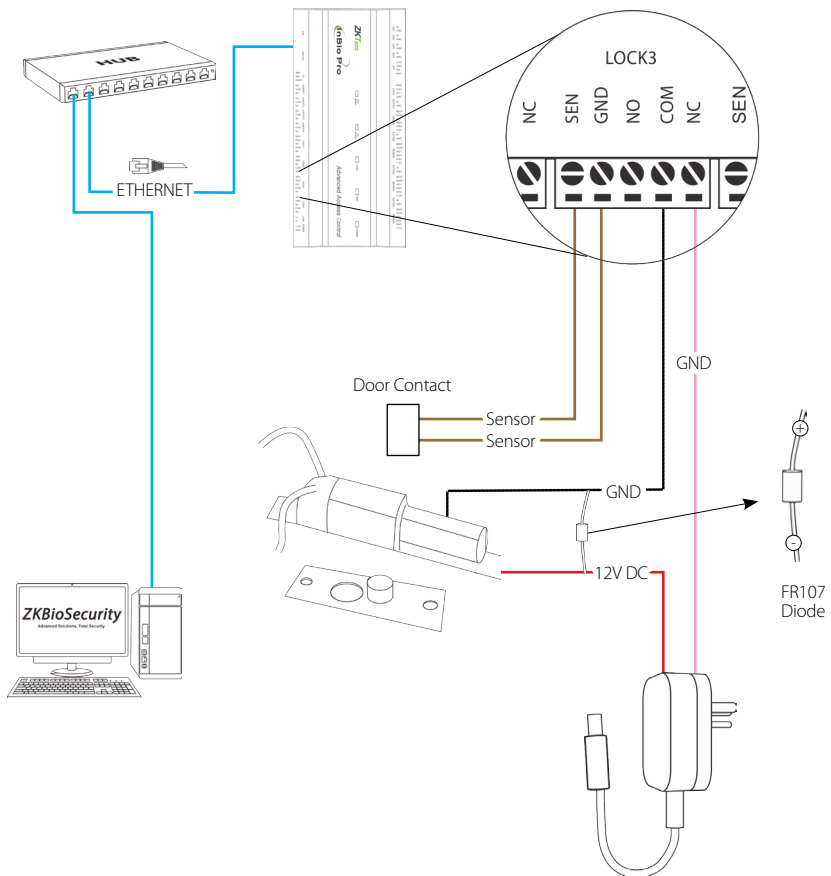




Figure 20

Switching Dry Contact to Wet Contact

Important Notes:

The factory default jumper setting is set as dry mode. If you want to power the lock from the panel, you must take the following steps:

1. Take apart the cover of InBio460Pro. Push the tab inward (see figure 21)
2. Select the appropriate lock relay and find its jumpers
3. Take off the jumpers and change  to 
4. Connect the lock as show in the diagram, (see figure 23 and 24)

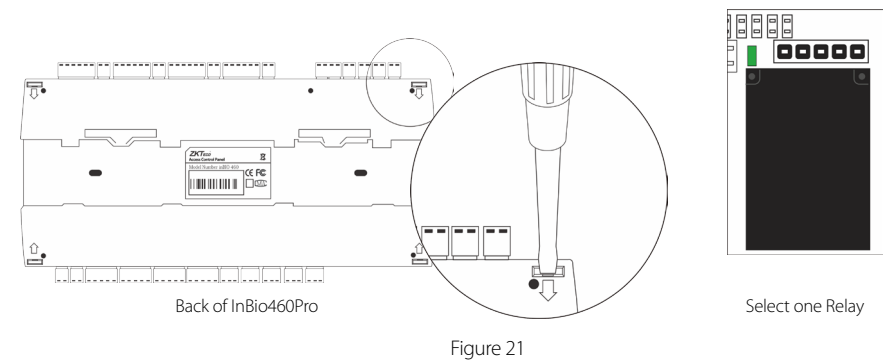


Figure 21

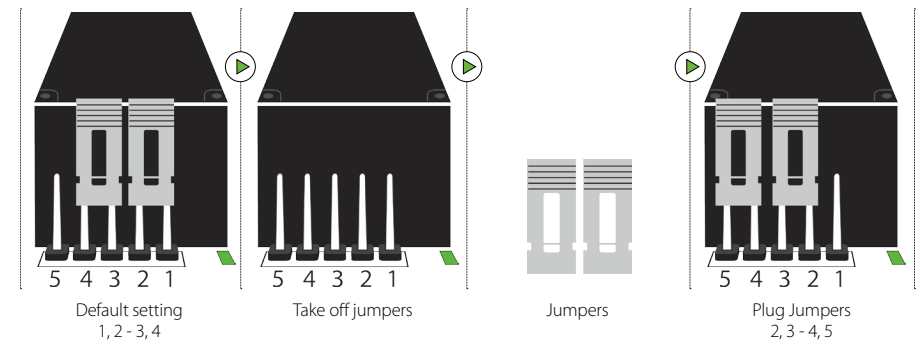


Figure 22

Lock Connection

Normally Open Lock Powered From Lock Terminal (Wet Contact)

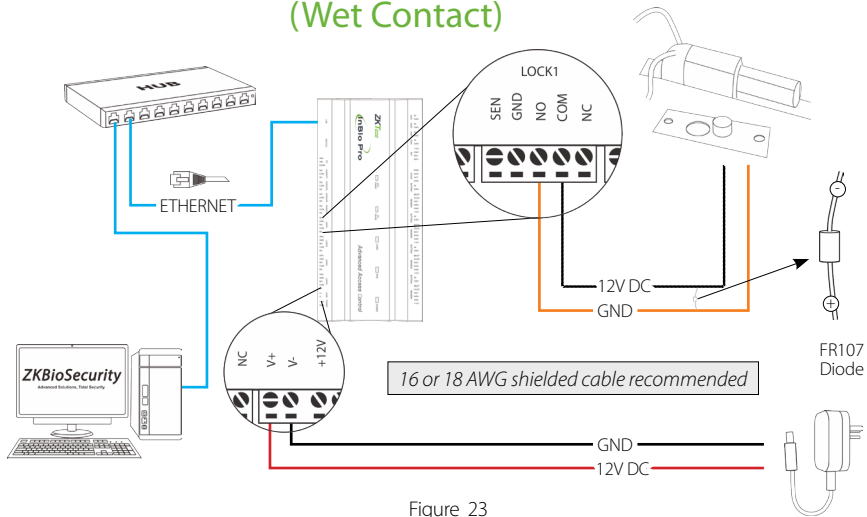


Figure 23

Normally Closed Lock Powered From Lock Terminal (Wet Contact)

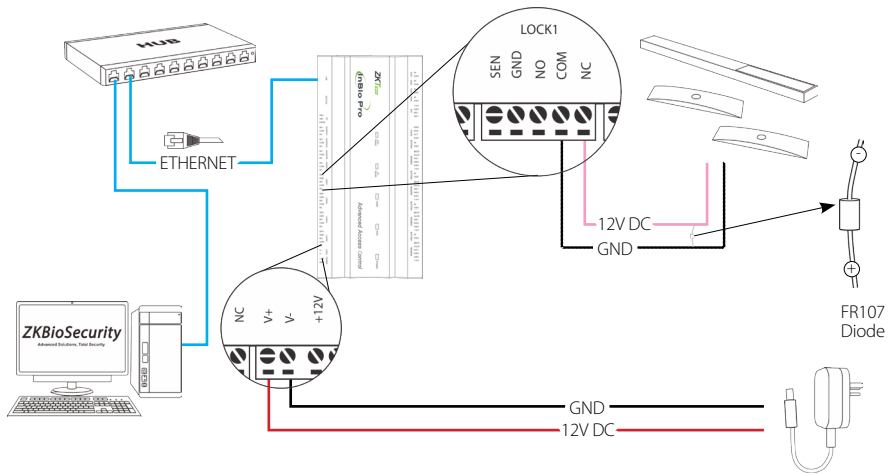


Figure 24

Aux. I/O Connection

Aux. Input Connection

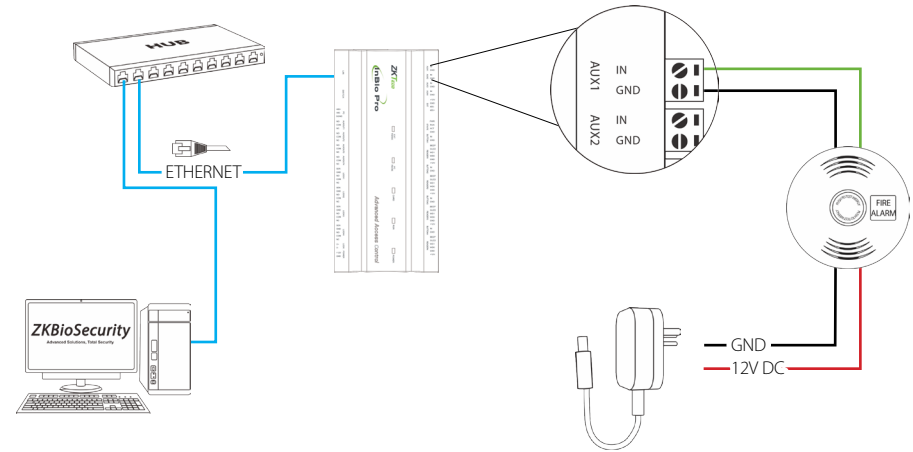


Figure 25

Aux. Output Connection

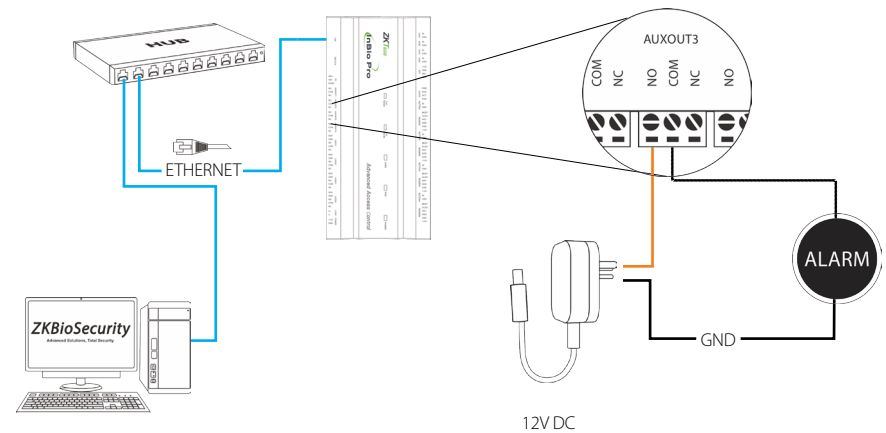


Figure 26

Ethernet Connection

LAN Connection

Important Notes:

1. Both 10Base-T and 100Base-T are supported
2. This cable distance must be less than 330 ft. (100m)
3. For cable length of more than 330 ft. (100m). use HUB to amplify the signal.

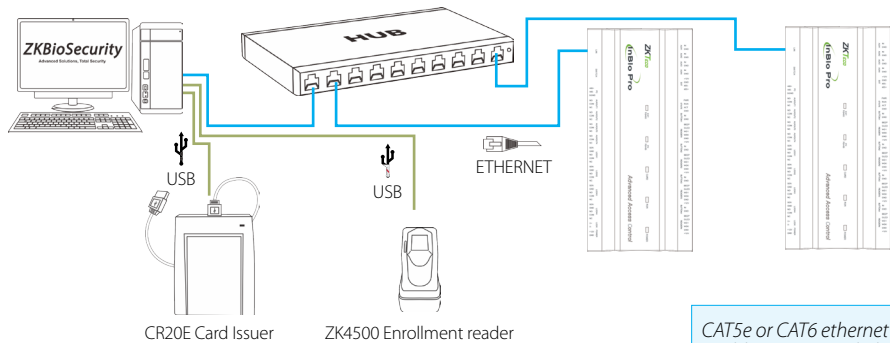


Figure 27

Direct connection

To connect InBio Pro Panel with a PC directly, connect both devices with a straight network cable. As the InBio Pro Panel supports auto MDI/MDIX, it is not necessary to use a crossover type cable.

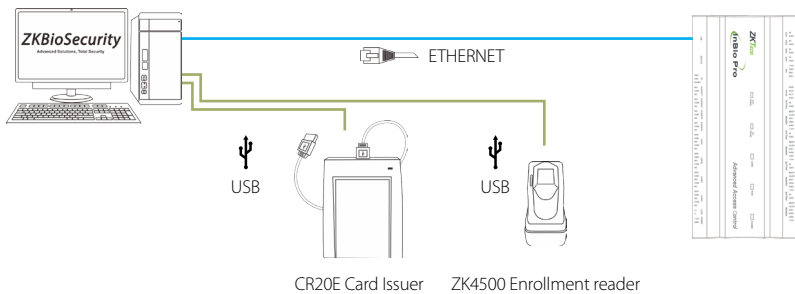


Figure 28

RS485 Connection

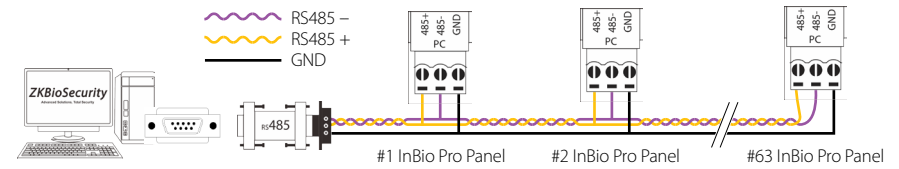


Figure 29

Important Notes:

1. RS485 communication wires should be a shielded twisted pair cable. RS485 communication wires should be connected in a bus cascade topology instead of a star topology, to achieve a better shielding effect by reducing signal reflection during communications.
2. A single RS485 bus can connect up to 63 access control panels, but preferably 32 is recommended maximum.
3. To eliminate signal attenuation in communication cables and suppress interference, if the bus is longer than 200 meters, set the number 8 DIP switch to the ON position. This is equivalent to a parallel connection of one 120 ohm resistance between the 485+ and 485- lines.

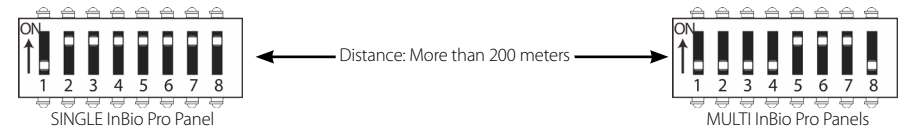


Figure 30

Incorrect RS485 connections

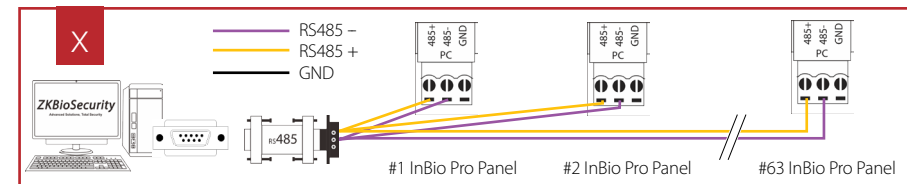
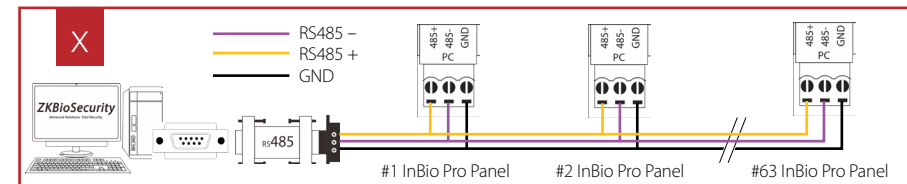


Figure 31

RS485 Connection

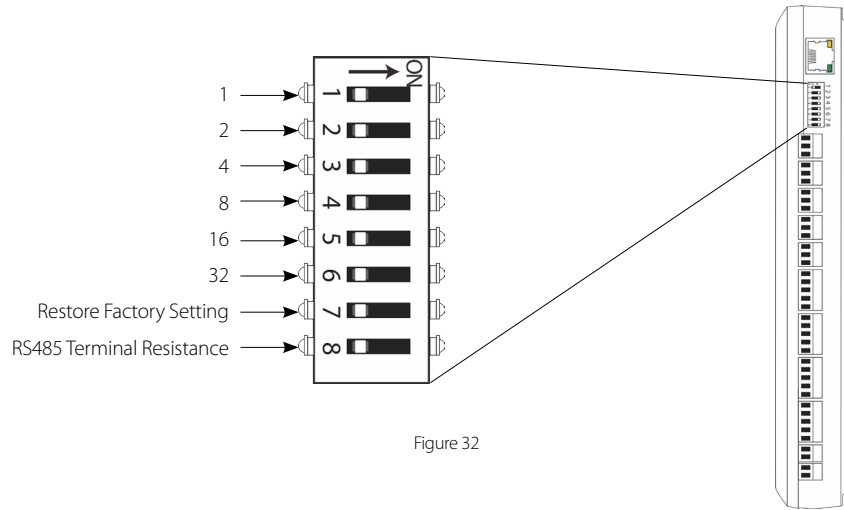
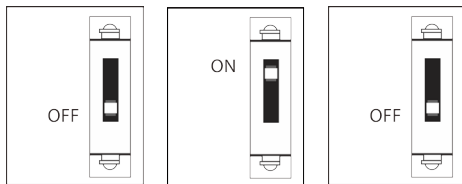


Figure 32

Restore factory setting

1. If you forget the IP address of the InBio Pro panel or the device does not work normally, you can use the number 7 DIP switch to restore InBio Pro Panel to factory default settings. The parameters which gets reset are device IP address, communication password, gateway, and subnet mask.
2. The switch is OFF by default. When it is moved up and down for three times within 10 seconds and finally returned to OFF position, the factory settings will be restored after the access control panel is restarted.



To reset factory settings
Turn #7 switch ON and OFF
Repeat process 3 times

Figure 33

DIP Switch Setting

RS485 Address

1. Number 1-6 are reserved to set the device number for RS485 communication. The code is binary, and the numbering starts from left to right. When the switch is set to ON position, it indicates 1 (on); when the switch is set downwards, it indicates 0 (off). For example, to set a device number 39=1+2+4+32, which corresponds to the binary code 111001, put number 1, 2, 3, and 6 to ON position, as illustrated below.

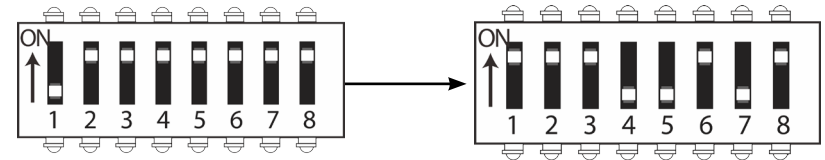
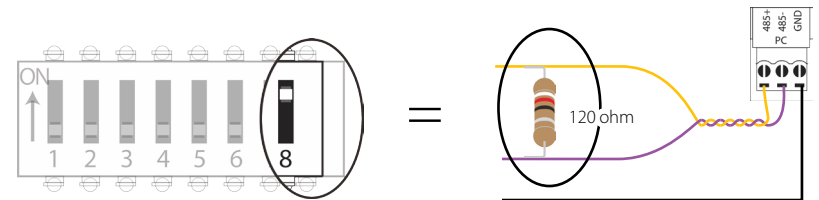


Figure 34

For more details, please check the table at the end of this document.

Terminal Resistance

1. Number 8 is for setting the RS485 termination resistance. Putting the switch to ON position is equivalent to parallel connection of a 120 ohm termination resistance between 485+ and 485- lines.



#63 InBio Pro Panel

Figure 35

Installation Diagram

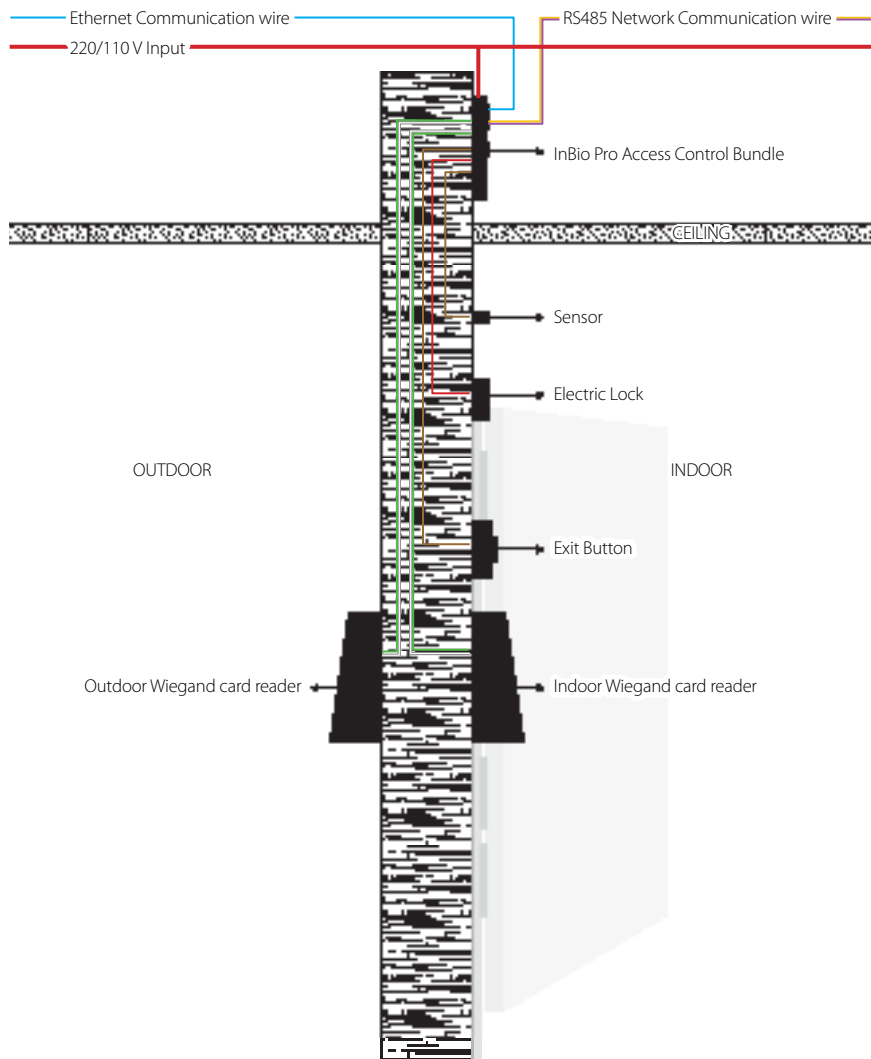


Figure 36

Troubleshooting

1. How to switch four door one way to two door two way?

- › Connect four readers from reader 1 to reader 4.
- › Connect two door locks, one connected to LOCK1, another connected to LOCK3.
- › In the software configure reader 1-Indoor, and reader 2-Outdoor.

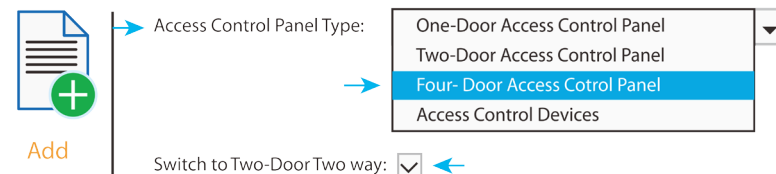


Figure 34

2. Can we integrate IP Camera and NVR?

- › Currently ZKBiosecurity software supports ZKTeco's IP Cameras and NVR
- › You can associate a camera to the door and setup a linkage for the same.

3. What does it mean when I get a "Wiegand Format Error"?

- › Your WD0 and WD1 wiring is reversed.

4. How do I connect a third party reader or a stand-alone reader to a InBio Pro panel?

- › Connect the wiegand output to the WD0 and WD1 of the stand-alone readers on the panel's reader port.

Note: The board can only supply 12VDC, 300mA power so an external power supply may be required.

5. What is the SD card slot used for?

- › SD card, stores transactions from the panel and creates a back up in addition to internal memory.

6. What kind of wire is recommended for the panel?

- › 16 or 18 AWG twisted shielded wire is recommended.

7. What is the default IP of the panel?

- › 192.168.1.201

8. How long is the device under warranty?

- › 1 Year from original purchase date, replacement/repair of hardware under ZK standard warranty requires an evaluation of the failed system by a ZK Technical Support specialist, and the issuance of a Technical Support RMA number.

PC 485 Setting Table


Address No.	Switch Setting					
	1	2	3	4	5	6
01	ON	OFF	OFF	OFF	OFF	OFF
02	OFF	ON	OFF	OFF	OFF	OFF
03	ON	ON	OFF	OFF	OFF	OFF
04	OFF	OFF	ON	OFF	OFF	OFF
05	ON	OFF	ON	OFF	OFF	OFF
06	OFF	ON	ON	OFF	OFF	OFF
07	ON	ON	ON	OFF	OFF	OFF
08	OFF	OFF	OFF	ON	OFF	OFF
09	ON	OFF	OFF	ON	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF
17	ON	OFF	OFF	OFF	ON	OFF
18	OFF	ON	OFF	OFF	ON	OFF
19	ON	ON	OFF	OFF	ON	OFF
20	OFF	OFF	ON	OFF	ON	OFF
21	ON	OFF	ON	OFF	ON	OFF
22	OFF	ON	ON	OFF	ON	OFF
23	ON	ON	ON	OFF	ON	OFF
24	OFF	OFF	OFF	ON	ON	OFF
25	ON	OFF	OFF	ON	ON	OFF
26	OFF	ON	OFF	ON	ON	OFF
27	ON	ON	OFF	ON	ON	OFF
28	OFF	OFF	ON	ON	ON	OFF
29	ON	OFF	ON	ON	ON	OFF
30	OFF	ON	ON	ON	ON	OFF
31	ON	ON	ON	ON	ON	OFF
32	OFF	OFF	OFF	OFF	OFF	ON

Address No.	Switch Setting					
	1	2	3	4	5	6
33	ON	OFF	OFF	OFF	OFF	ON
34	OFF	ON	OFF	OFF	OFF	ON
35	ON	ON	OFF	OFF	OFF	ON
36	OFF	OFF	ON	OFF	OFF	ON
37	ON	OFF	ON	OFF	OFF	ON
38	OFF	ON	ON	OFF	OFF	ON
39	ON	ON	ON	OFF	OFF	ON
40	OFF	OFF	OFF	ON	OFF	ON
41	ON	OFF	OFF	ON	OFF	ON
42	OFF	ON	OFF	ON	OFF	ON
43	ON	ON	OFF	ON	OFF	ON
44	OFF	OFF	ON	ON	OFF	ON
45	ON	OFF	ON	ON	OFF	ON
46	OFF	ON	ON	ON	OFF	ON
47	ON	ON	ON	ON	OFF	ON
48	OFF	OFF	OFF	OFF	ON	ON
49	ON	OFF	OFF	OFF	ON	ON
50	OFF	ON	OFF	OFF	ON	ON
51	ON	ON	OFF	OFF	ON	ON
52	OFF	OFF	ON	OFF	ON	ON
53	ON	OFF	ON	OFF	ON	ON
54	OFF	ON	ON	OFF	ON	ON
55	ON	ON	ON	OFF	ON	ON
56	OFF	OFF	OFF	ON	ON	ON
57	ON	OFF	OFF	ON	ON	ON
58	OFF	ON	OFF	ON	ON	ON
59	ON	ON	OFF	ON	ON	ON
60	OFF	OFF	ON	ON	ON	ON
61	ON	OFF	ON	ON	ON	ON
62	OFF	ON	ON	ON	ON	ON
63	ON	ON	ON	ON	ON	ON

Electrical Specifications

	Minimum	Typical	Maximum	Notes
WORKING POWER SUPPLY				
Voltage (V) DC	9.6	12	14.4	Use regulated DC power adaptor only
Current (A)			2	
ELECTRONIC LOCK RELAY OUTPUT				
Switching voltage (V)			12V	Use regulated DC power adaptor only
Switching Current (A)			2	
Auxiliary relay output				
Switching voltage (V)			12V	Use regulated DC power adaptor only
Switching Current (A)			1.25	
SWITCH AUX. INPUT				
VIH (V)				
VIL (V)				
Pull-up resistance (Ω)		4.7k		The input ports are pulled up with 4.7k resistors
WIEGAND INPUT				
Voltage (V)	10.8	12	13.5	
Current (mA)			500	
ZK ELECTRIC LOCK				
Voltage (V) DC	10.8	12	13.2	
Current (mA)			500	

Specifications

Communication	RS485, TCP/IP
Baud Rate for RS485	9600-15200
Power Supply	12V DC, 2A
Card Holders Capacity	30,000
Log Events Capacity	100,000
LED Indicator	Indicator for communication, power, status and prox card
Environment	32-113 °F (0-45°C)
Operating Humidity	20% to 80%
Number of doors controlled	Four Door (four door one way and two door two way)
Number of readers supported	4
Types of readers supported	26-bits WIEGAND, others upon request
Number of Inputs	12 (4 Exit Device, 4 Door Status, 4 AUX)
Number of Outputs	8 (4- Form C relay for lock and 4- Form C relay for Aux output)
Weight	7.8lbs (3.55kg)
Enclosure	Metal Cabinet
Mounting	Wall Mount
Dimensions (Bundle Only)	15.7in. x 3.56in. x 13.0in 400mm(L) x 90.5mm(W) x 330mm(H)
Dimensions (Board Only)	8.0in. x 4.17in. 203.2mm(L) x 106mm(W)
CPU	32 bit 400MHz
RAM	32MB
Flash	128MB
Certified	

Green Label

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