Installation Guide

inBio-Series

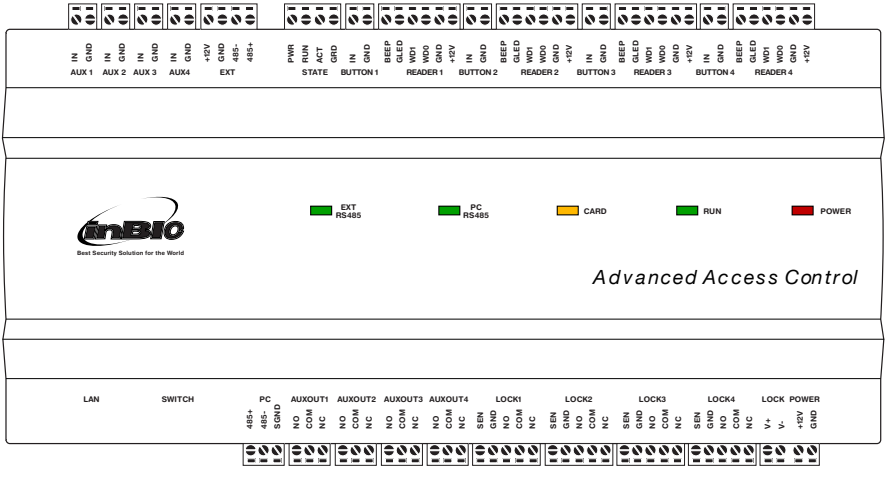
Access Control Panels

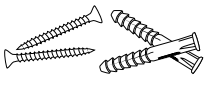
&

ZKAccess 5.2 software

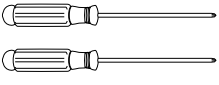
ZKAccess.com

What's in the Box

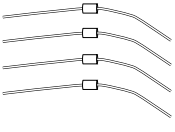




2 Screws & Anchors



2 Screwdriver



4 Diode

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ZKAccess 5.2 software

Installation and Setup starts at page 30

Optional accessories

Wiegand Card Reader

Prox Card

RS485 Convertor

K1-1 Exit Button

ZK4500 Enrollment reader

CR10E Card Enroller

FR1200 FP & Prox Reader

inBio 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

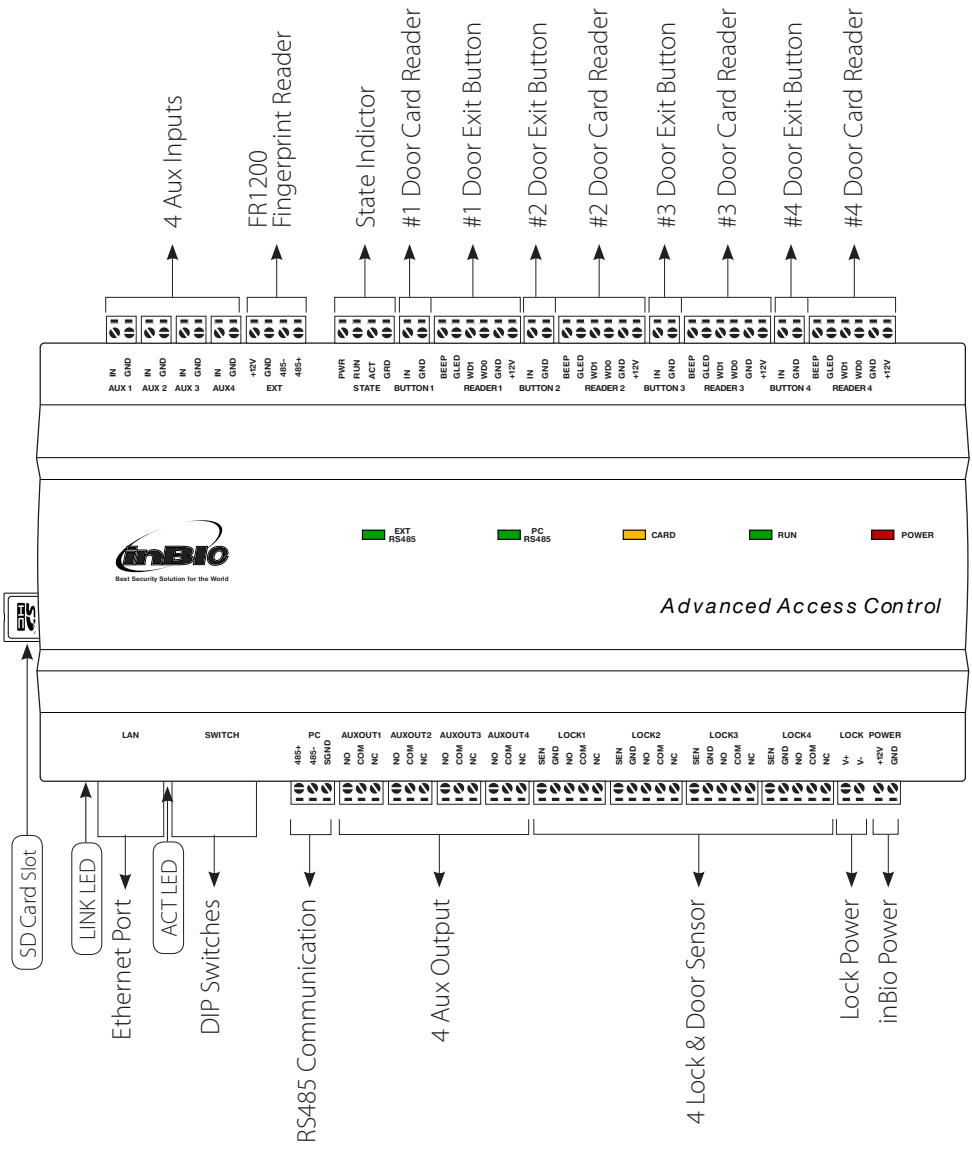


Figure 1

LED Indicators

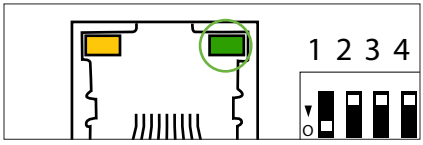


Figure 2

LINK Solid Green LED indicates TCP/IP communication is normal

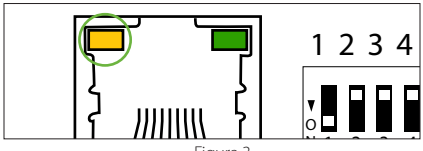


Figure 3

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

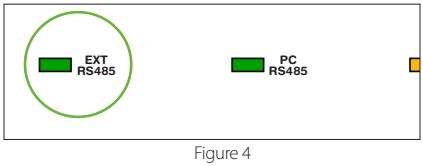


Figure 4

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

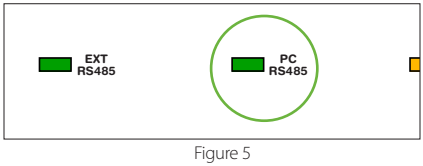


Figure 5

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.

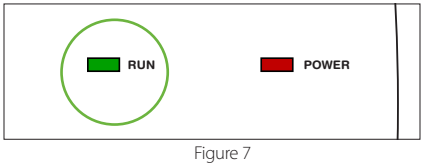


Figure 7

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

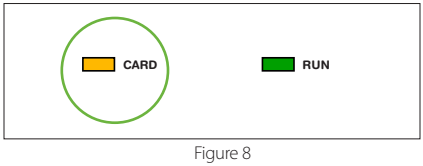


Figure 8

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

Product Dimension

inBio-160 inBio-260 inBio-460

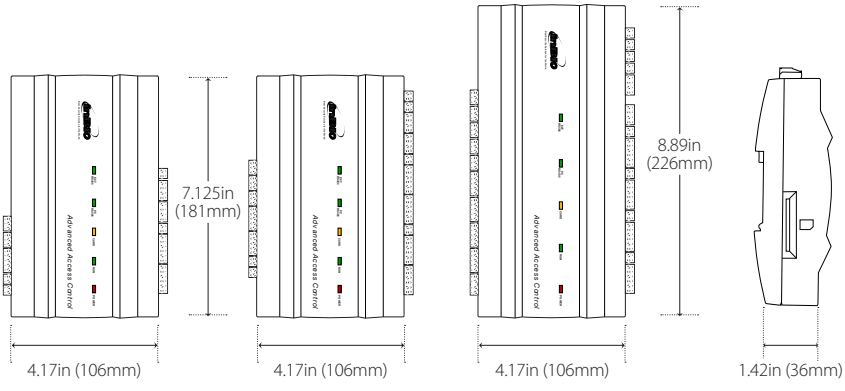


Figure 9

inBio- Metal Cabinet

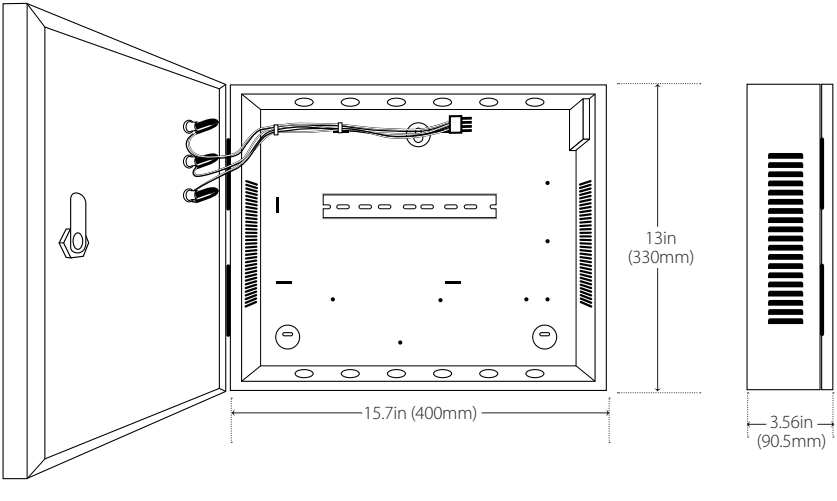


Figure 10

Installation of Panel & Cabinet

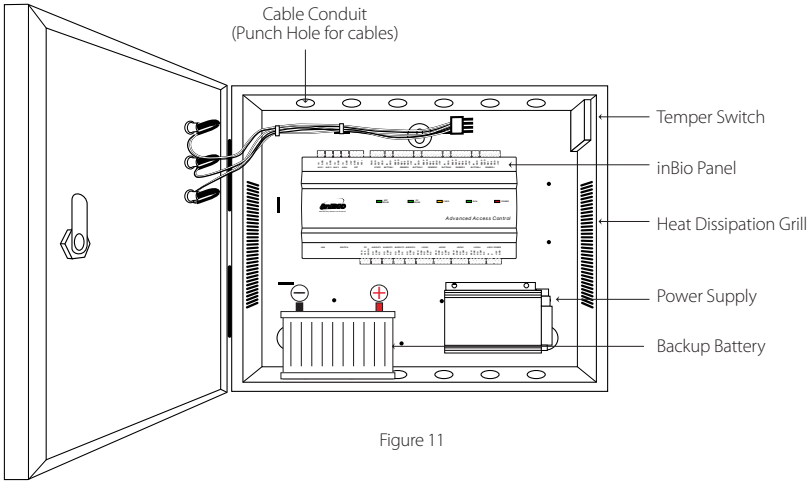


Figure 11

Step 1
Pass the cable through holes

Step 2
Mount the Metal Cabinet

Step 3
Insert the inBio Panel as it shown

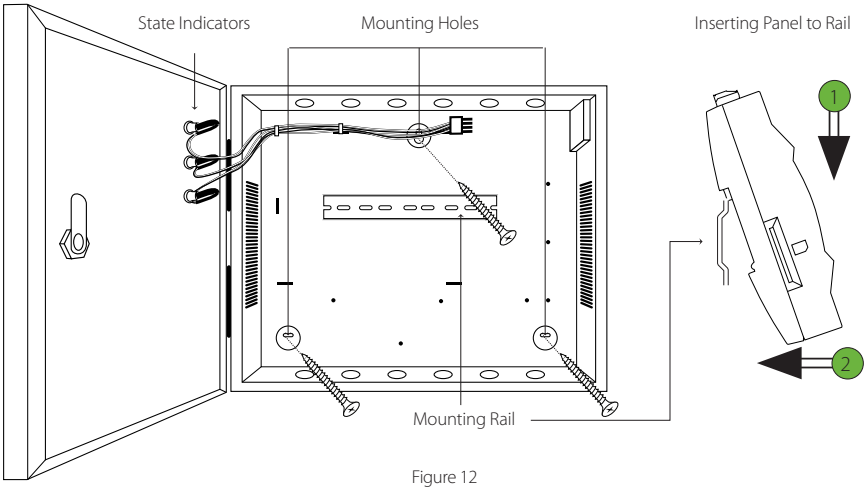


Figure 12

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

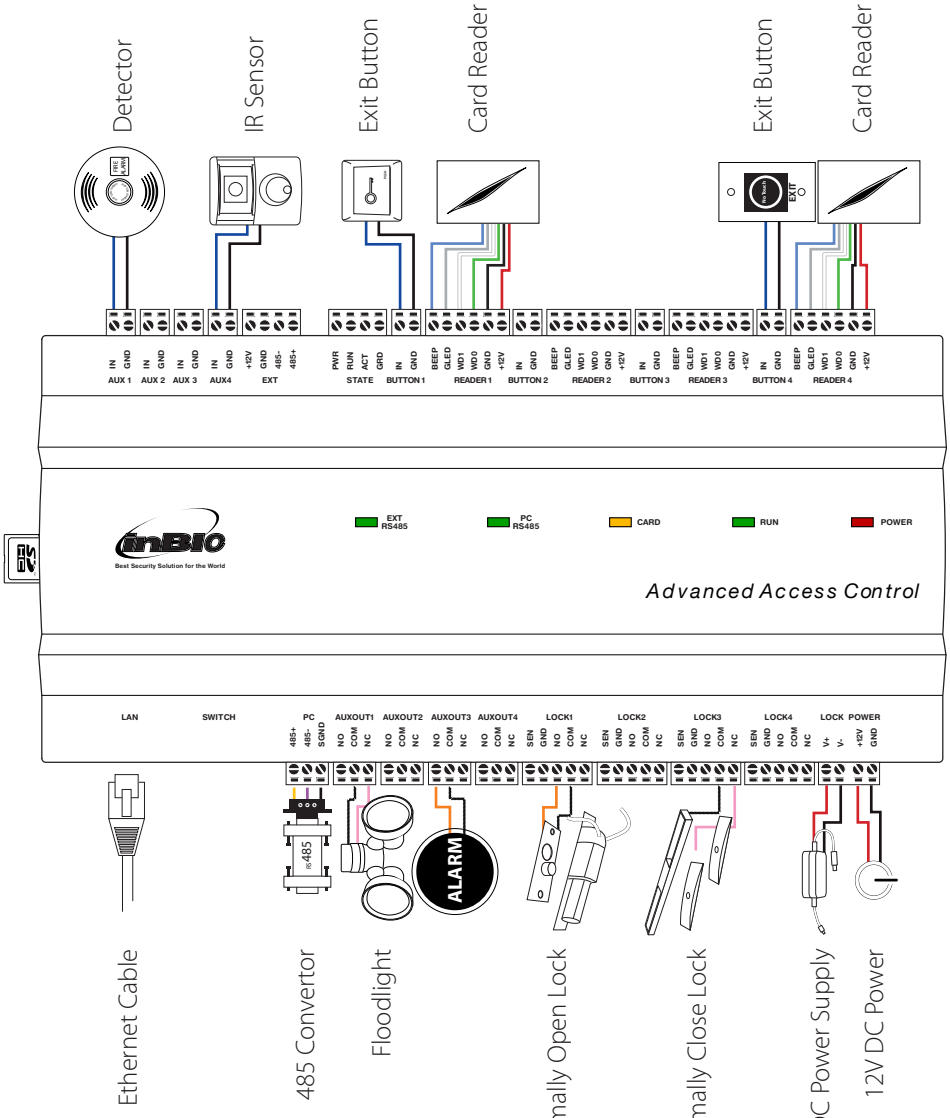


Figure 13

Power Wiring Diagram

Without Backup Battery

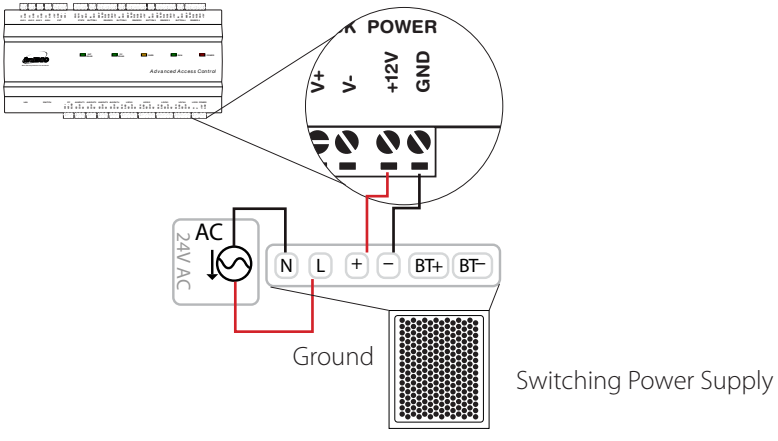


Figure 14

With Backup Battery

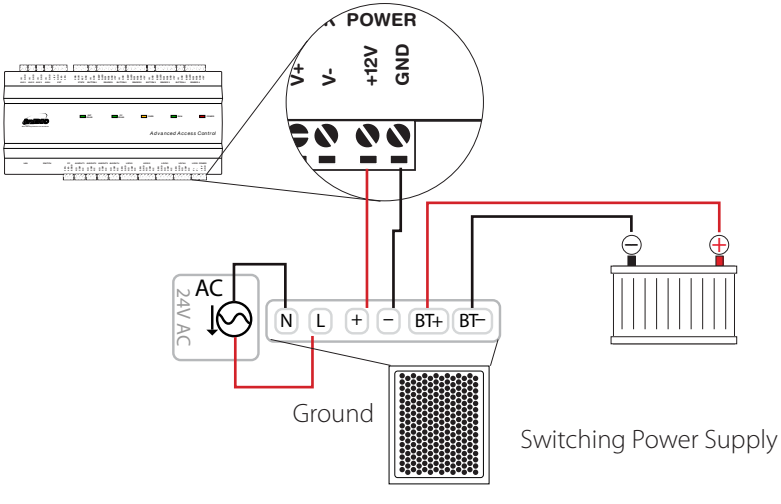


Figure 15

FR1200 Connection

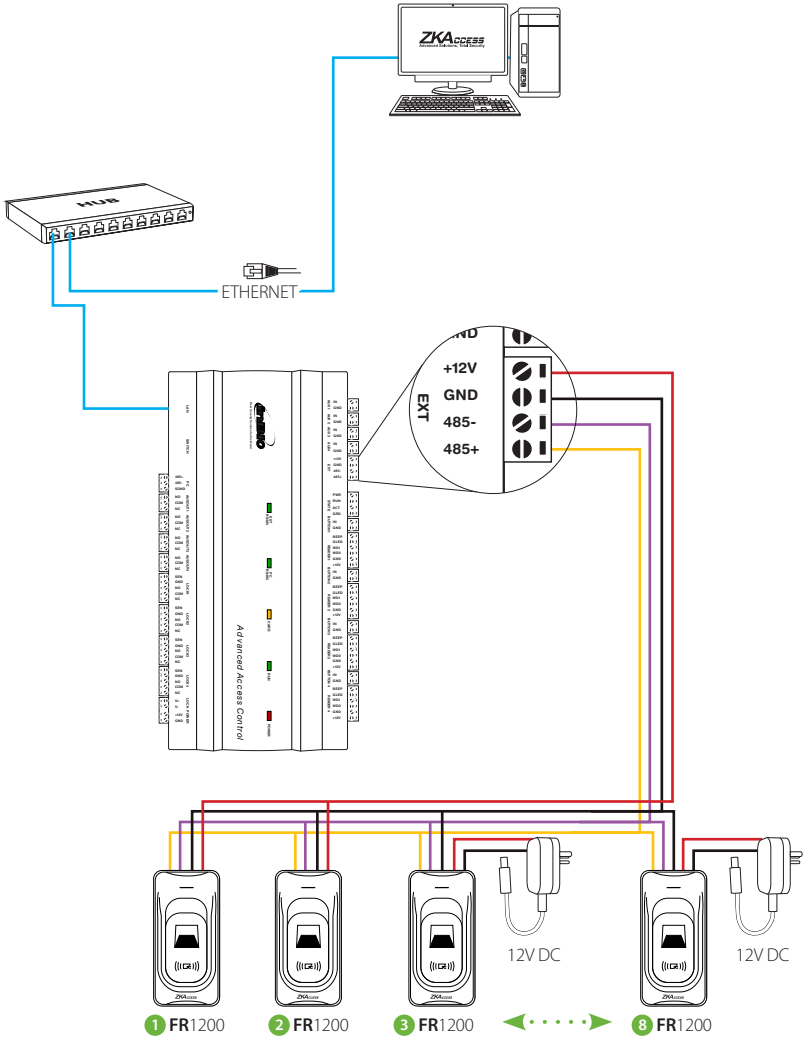
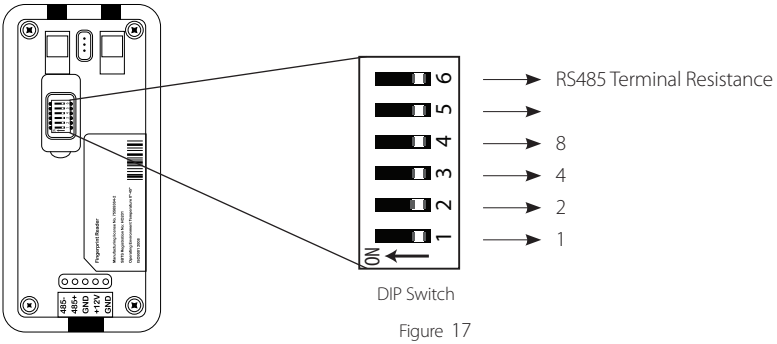


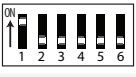
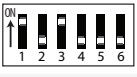
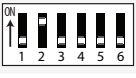
Figure 16

DIP Switch Setting for FR1200 Device ID



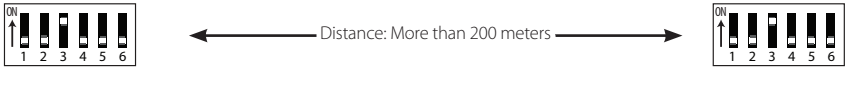
DIP Switch

Figure 17

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

Important Notes

1. There are six DIP switches on the back of FR1200, Switches 1-4 is for RS485 address, switch 5 is reserved, switch 6 is for reducing noise on long RS485 cable.
2. 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)
3. If FR1200 is powered from inBio-Panel, the length of wire should be less than 100 meters or 330 ft.
4. The External RS485 interface can supply maximum 500mA current, The FR1200's startup current is 240mA. So inBio-Panel only can only power two FR1200s.
5. If the cable length is more than 200 meters or 600 ft , the number 6 switch should be ON as below



Wiegand Connection

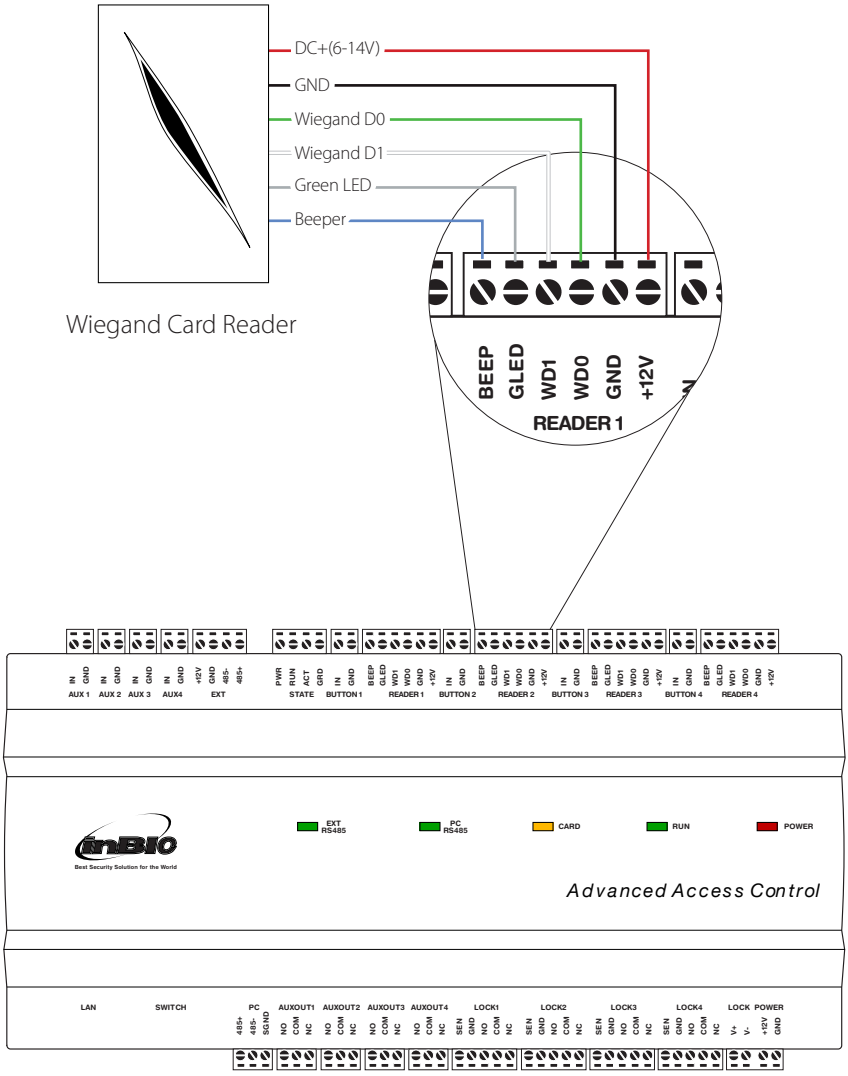


Figure 18

REX Connections

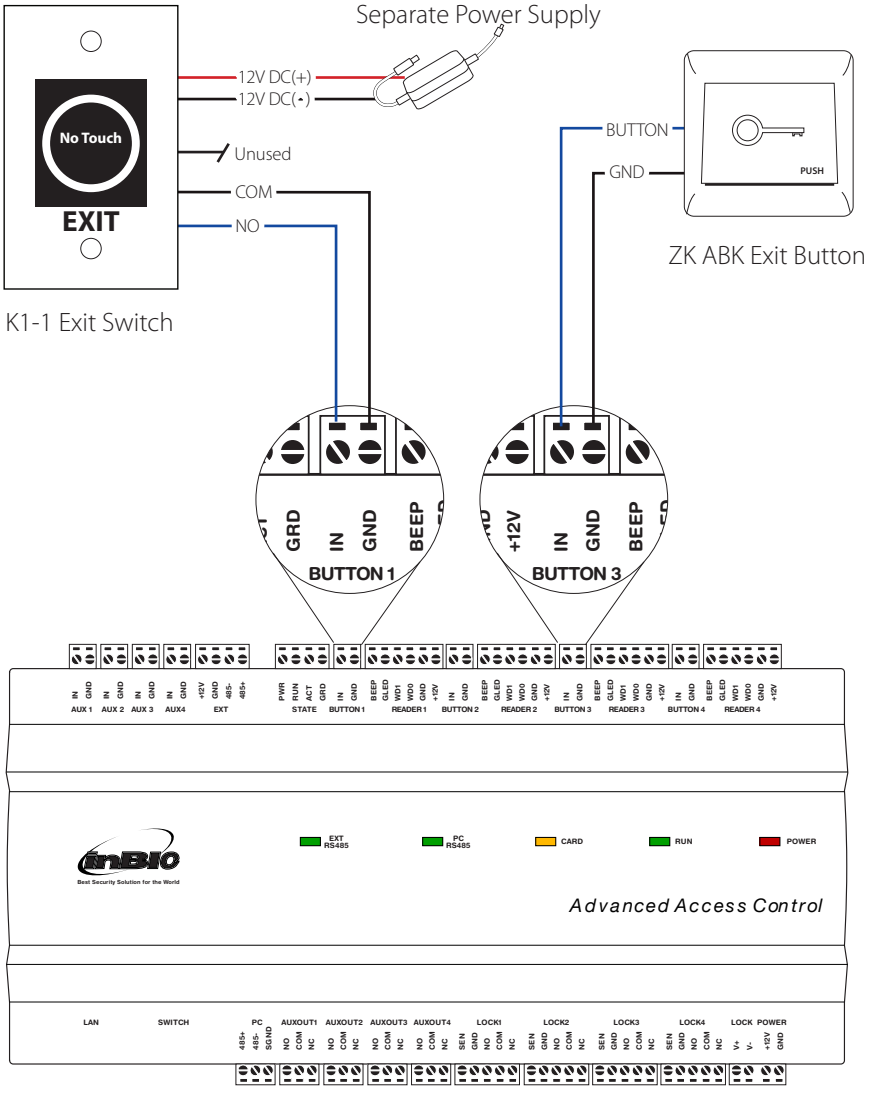


Figure 19

Lock Connection

Normally Open Lock Powered From Lock Terminal

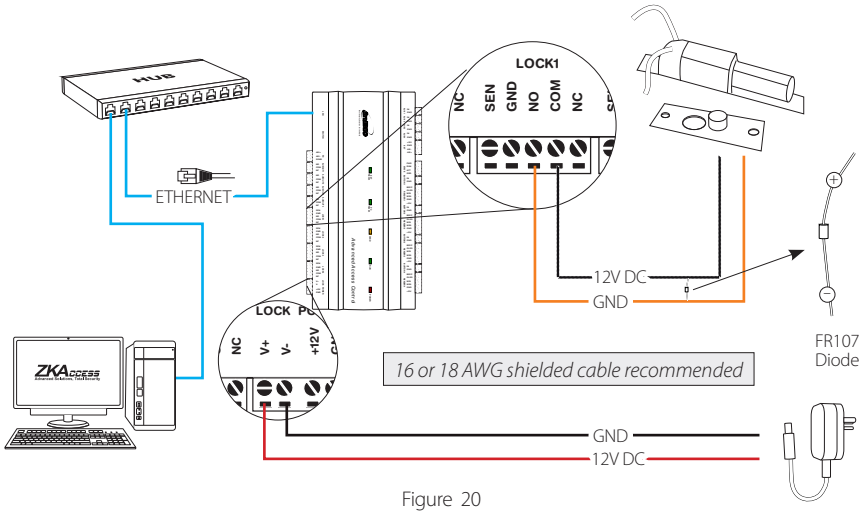


Figure 20

Normally Closed Lock Powered From Lock Terminal

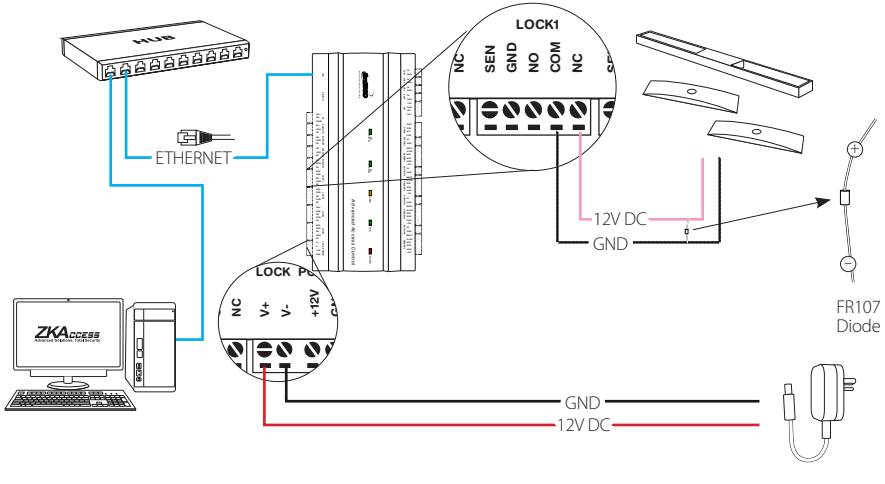


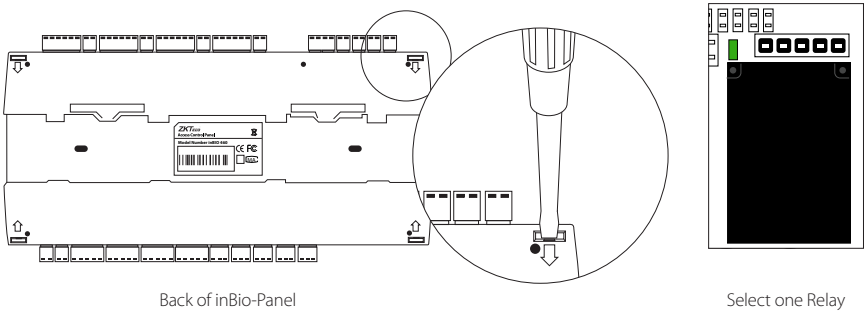
Figure 21

Switching Wet Contact to Dry Contact

Important Notes:

inBio is set to supply lock power by default from the lock power terminal. If you want to connect the lock directly to the power supply, you must take the following steps:

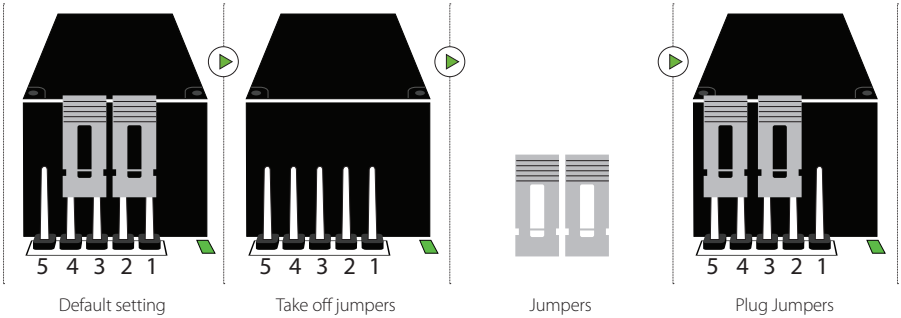
1. Take apart the cover of inBio Panel. Push the tab inward (see figure 20)
2. Select the appropriate lock relay and find its jumpers
3. Take off the jumpers and change to
4. Connect the lock as show in the diagram, (see figure 24)



Back of inBio-Panel

Select one Relay

Figure 22



Default setting
1, 2 - 3, 4

Take off jumpers

Jumpers

Plug Jumpers
2, 3 - 4, 5

Figure 23

Lock Connection

Connecting a Lock Directly to Power Supply

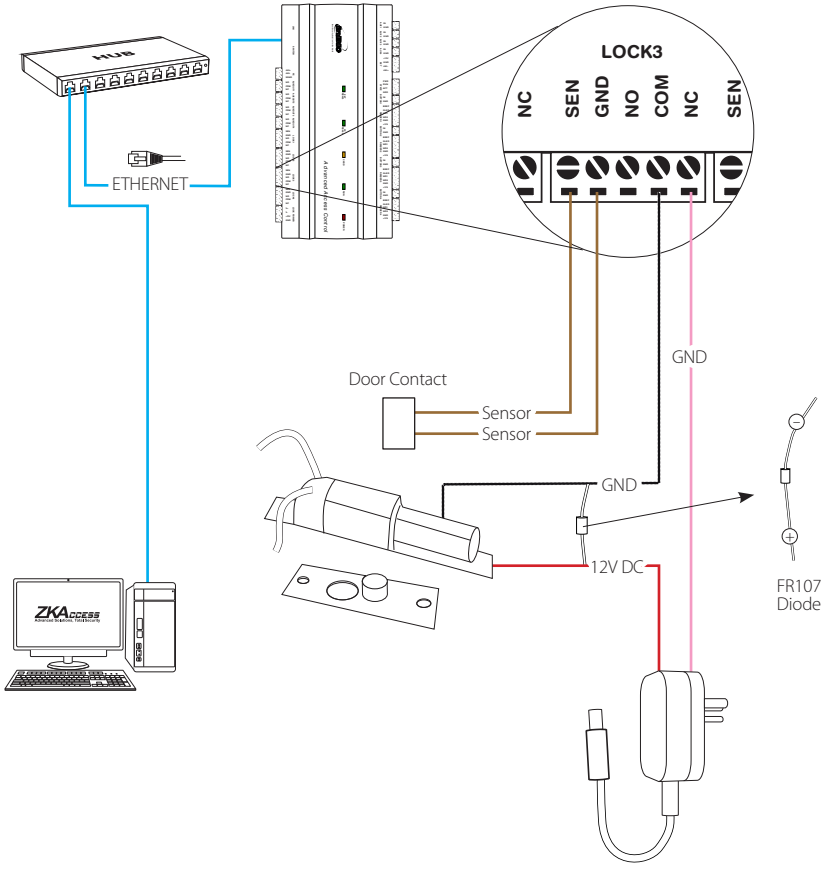


Figure 24

Aux. I/O connection

Aux. Input Connection

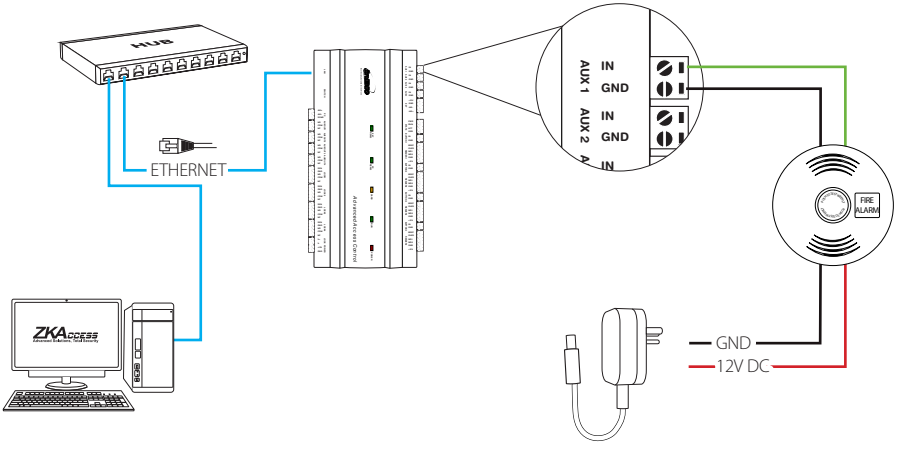


Figure 25

Aux. Output Connection

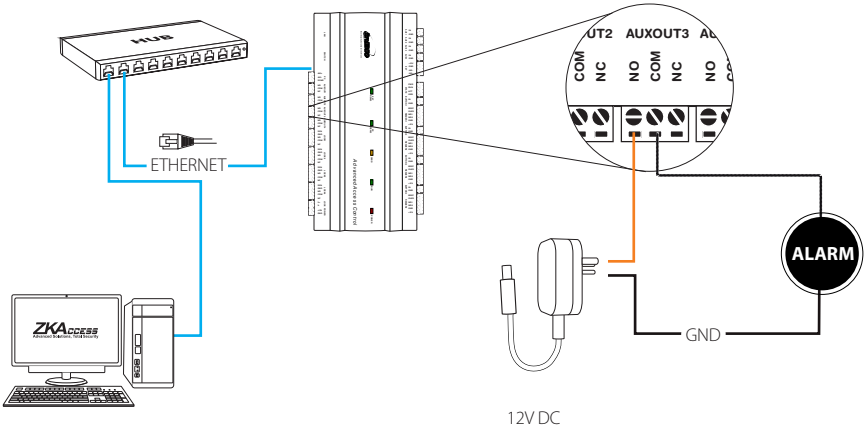


Figure 26

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.

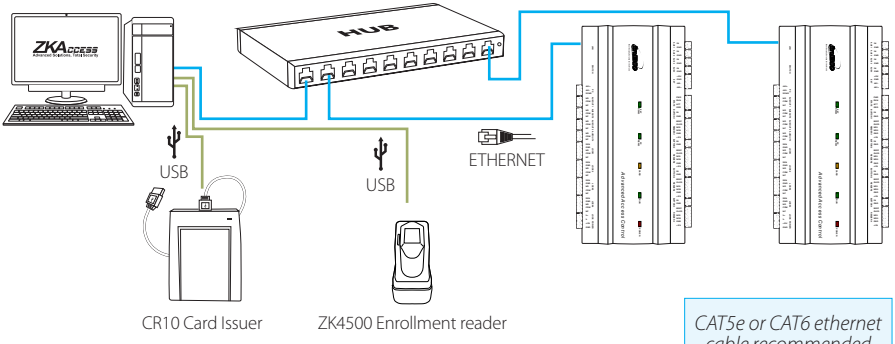


Figure 27

Direct connection

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

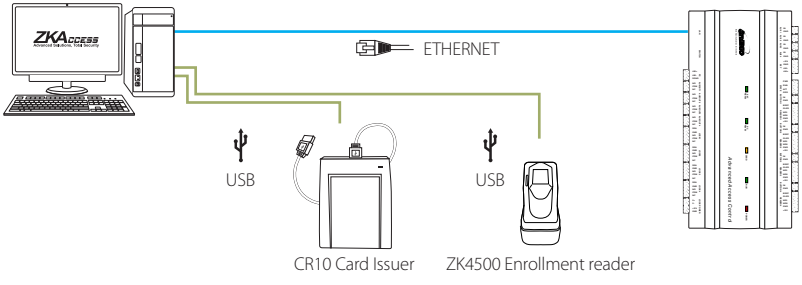


Figure 28

RS485 Connection

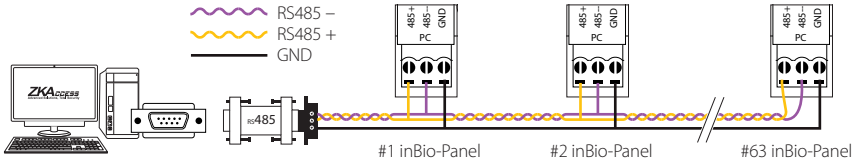


Figure 29

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.

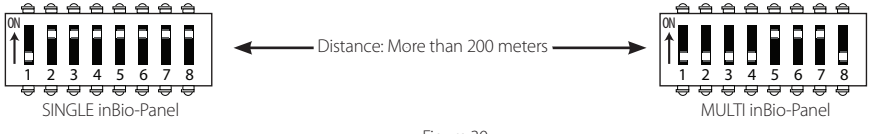


Figure 30

Incorrect RS 485 connections

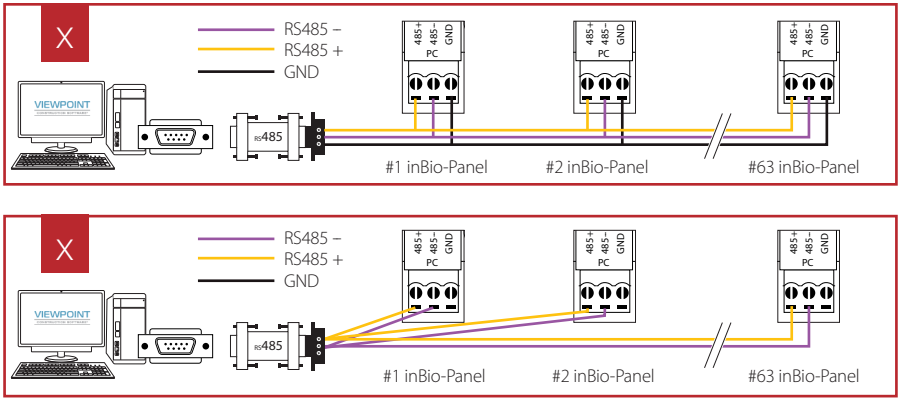


Figure 31

RS485 Connection

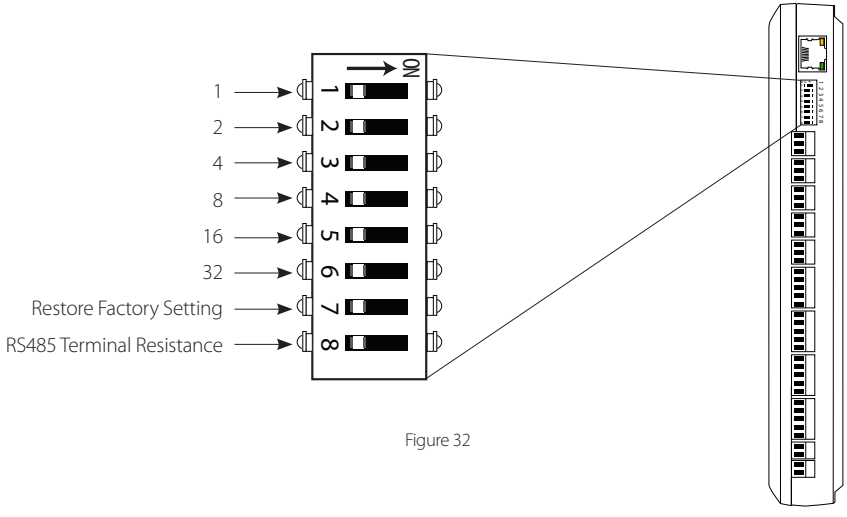
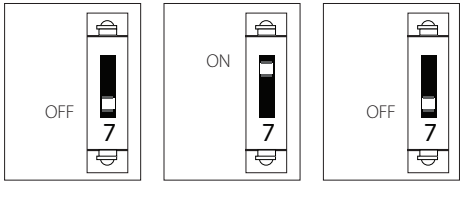


Figure 32

Restore factory setting

1. If you forget the IP address of the inBio panel or the device does not work normally, you can use the number 7 DIP switch to restore inBio-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.

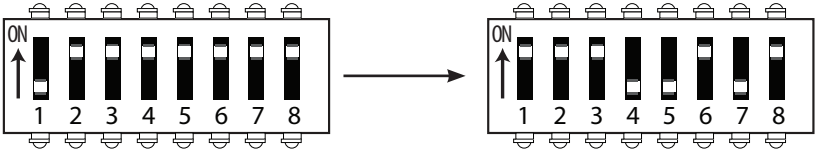
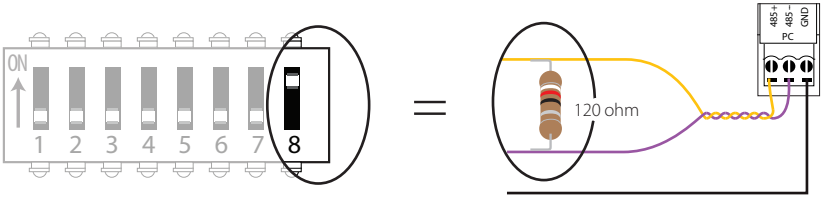


Figure 34

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-Panel

Figure 35

Installation Diagram

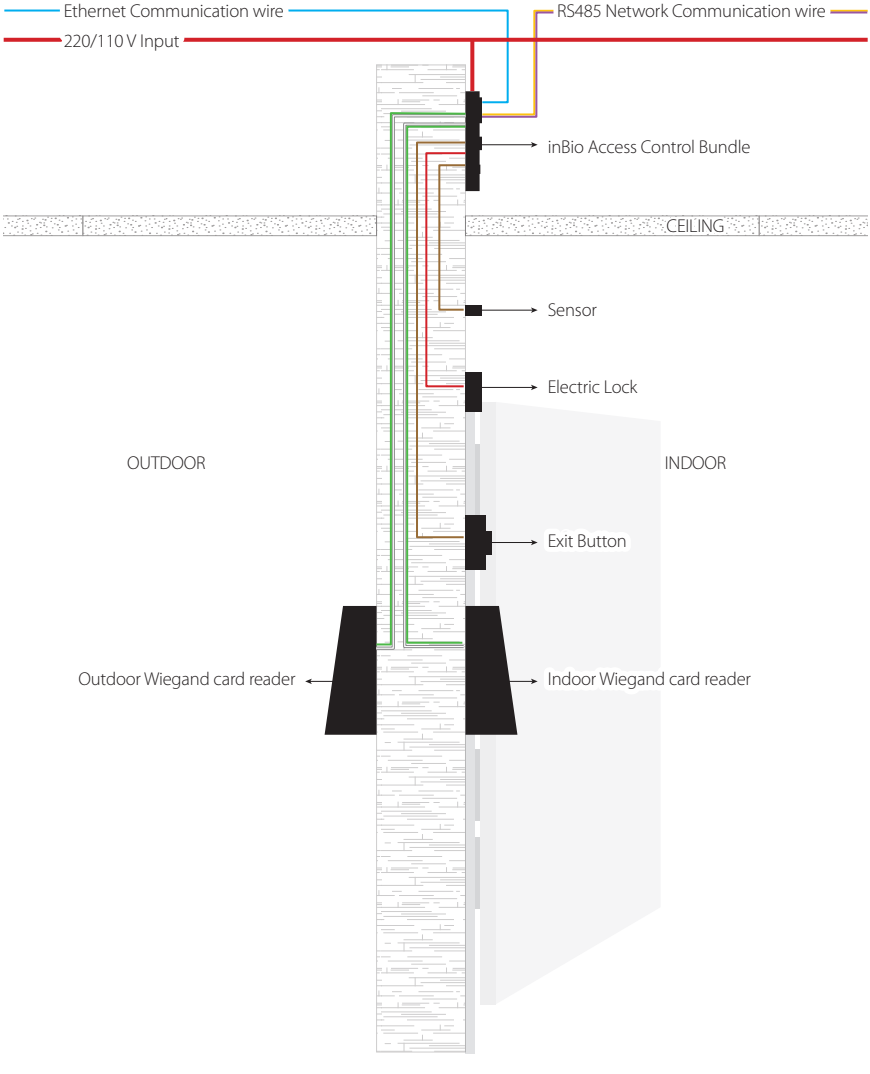


Figure 36

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.

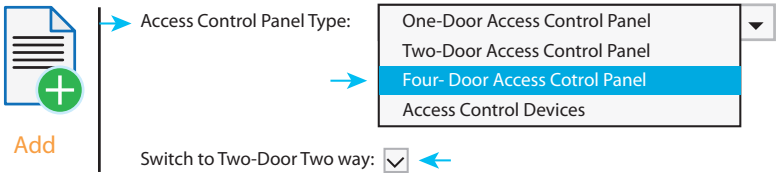


Figure 34

2. Can we integrate IP Camera and NVR?

› Currently ZKACCESS software supports ZKAccess' 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 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 12 V DC, 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 additional 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

	Switch Setting					
	1	2	3	4	5	6
Address No.	1	2	4	8	16	32
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

	Switch Setting					
	1	2	3	4	5	6
Address No.	1	2	4	8	16	32
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	CE FC RoHS ETL

ZKAccess 5.2 software

Installation & Setup

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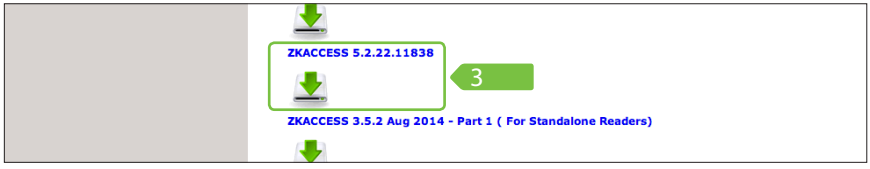
Downloading

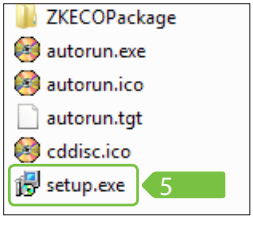
1. Go to zkaccess.com.
2. Click Downloads and then Software Downloads in the dropdown menu.

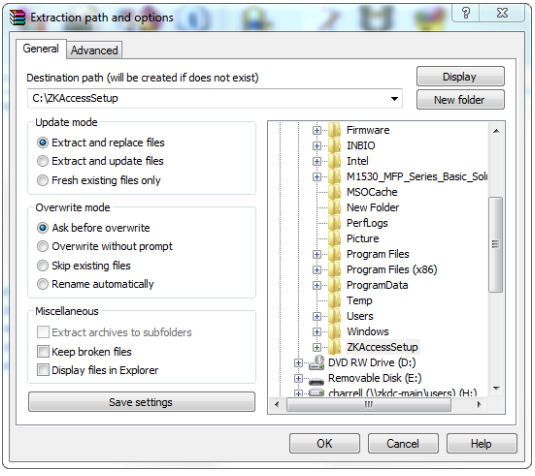


3. Scroll to the bottom of the page and click ZKACCESS 5.2.22 to download.

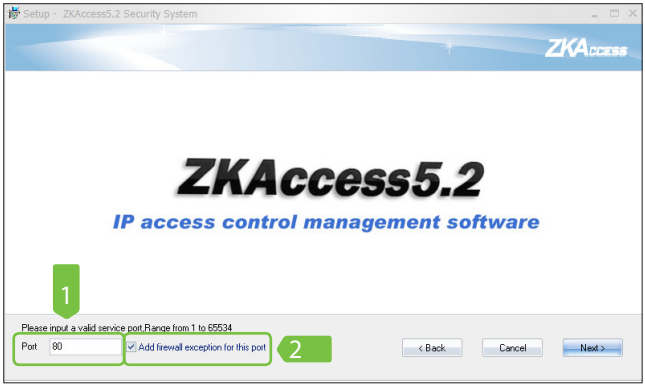
If you do not have software to extract compressed files, Scroll up on the same page to find Winrar 32 or Winrar 64 to download.

4. Extract the downloaded files to a new folder named "ZKAccessSetup"
5. Click setup.exe to begin installation.



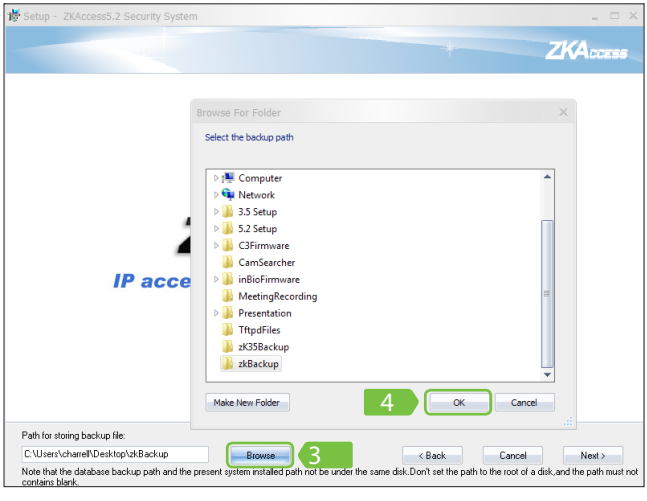


Installation



1. Add an open port (Default 80) or ask a network administrator for an open port

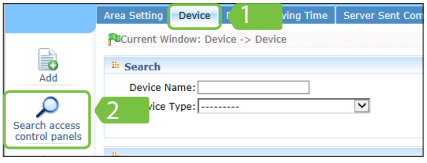
2. Click the box to "Add firewall exception for this port"

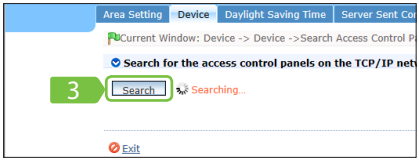


3. Click Browse and choose or create a folder to store your backup files in.

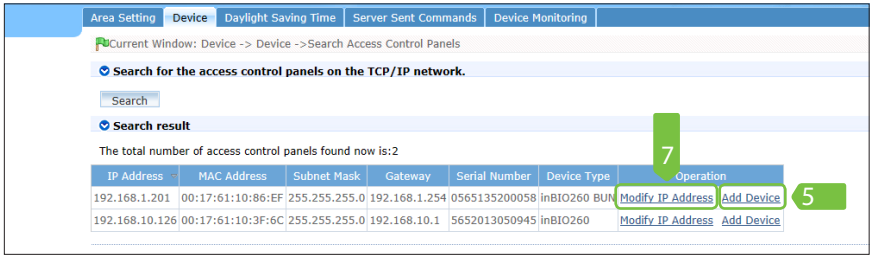
4. Click OK

Adding a Device





1. Click Device
2. Click Search Panels, to show the Search interface;
3. Click Search, and it will prompt [searching……];

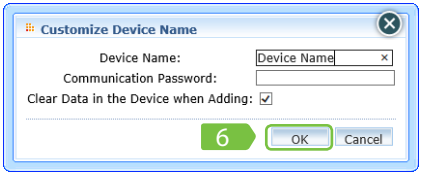


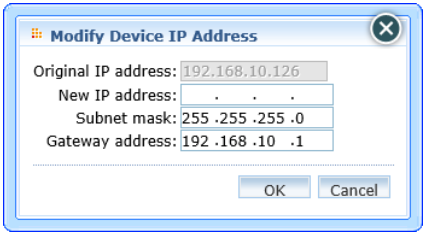
4. After searching, the list of all access control panels on the network will be displayed.
5. Click Add Device on the right side of the listed device, and a dialog box will open.
6. Enter self-defined device name, and click OK to complete the process.

The default IP address of the access control panel may conflict with the IP of another device on the network.

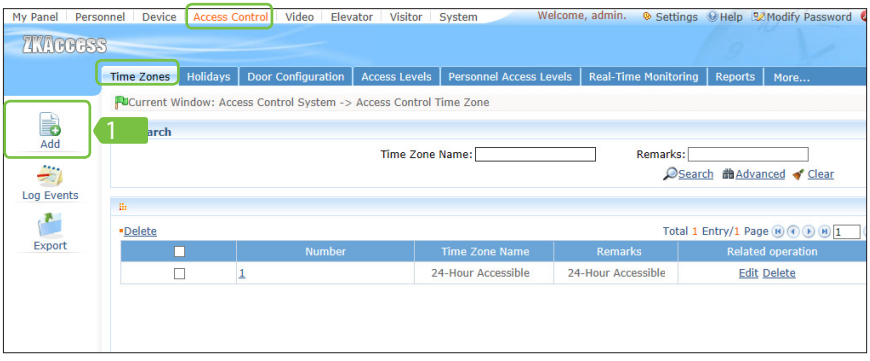
7. You can modify the IP address: Click Modify IP Address to the right of the device and a dialog box will open. Enter the new IP address and other parameters

Note: Must configure the gateway and IP address in the same network segment

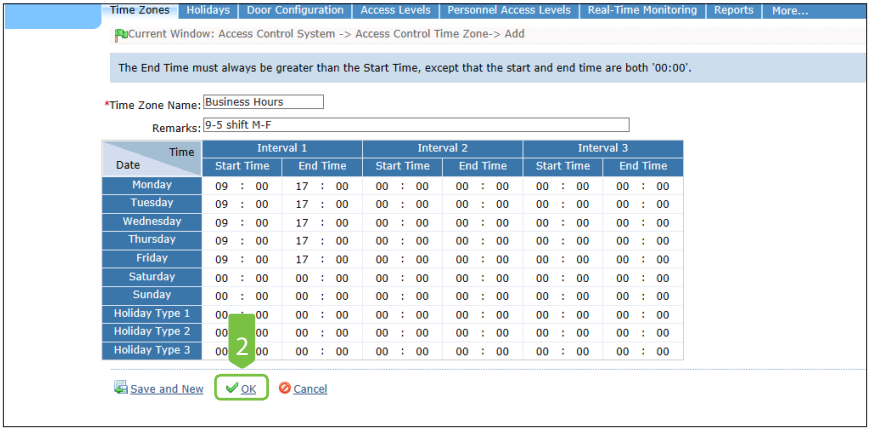




Creating a Time Zone

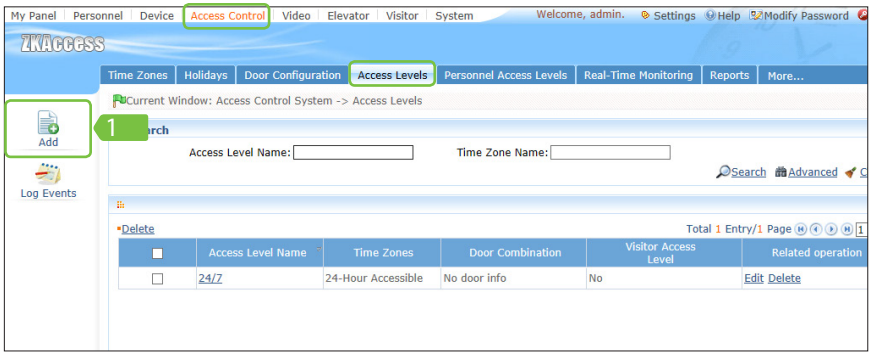


1. Click Access Control > Time zones > Add to access the time zone setting interface

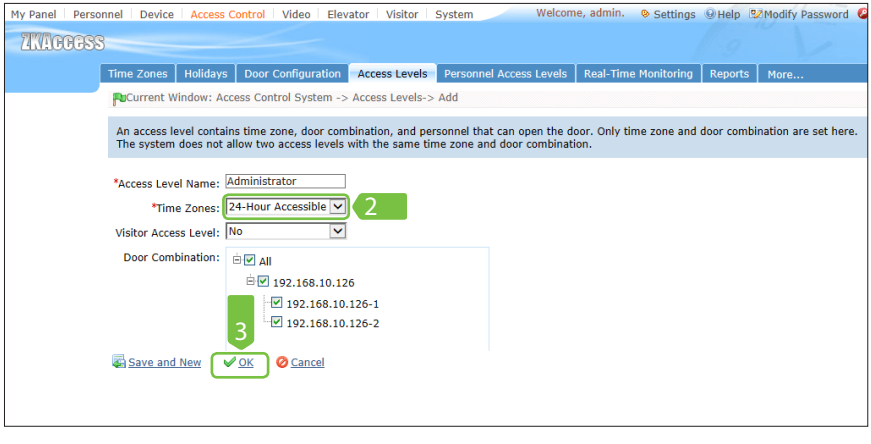


2. After setting the time zone, click OK to save, and the time zone will appear in the list.

Create an Access Level



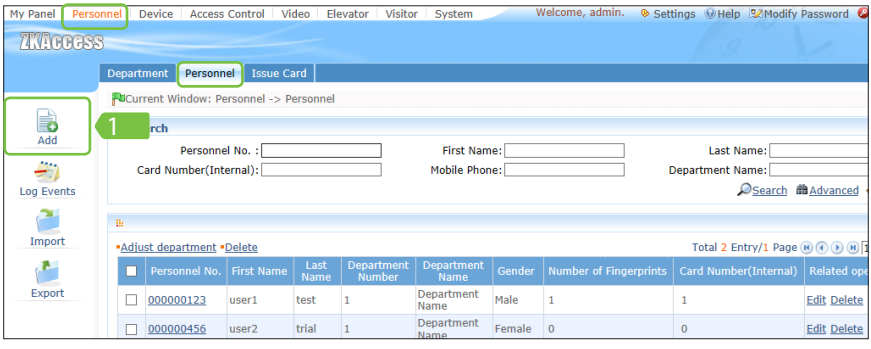
1. Click Access Control > Access levels > Add to add an access level.



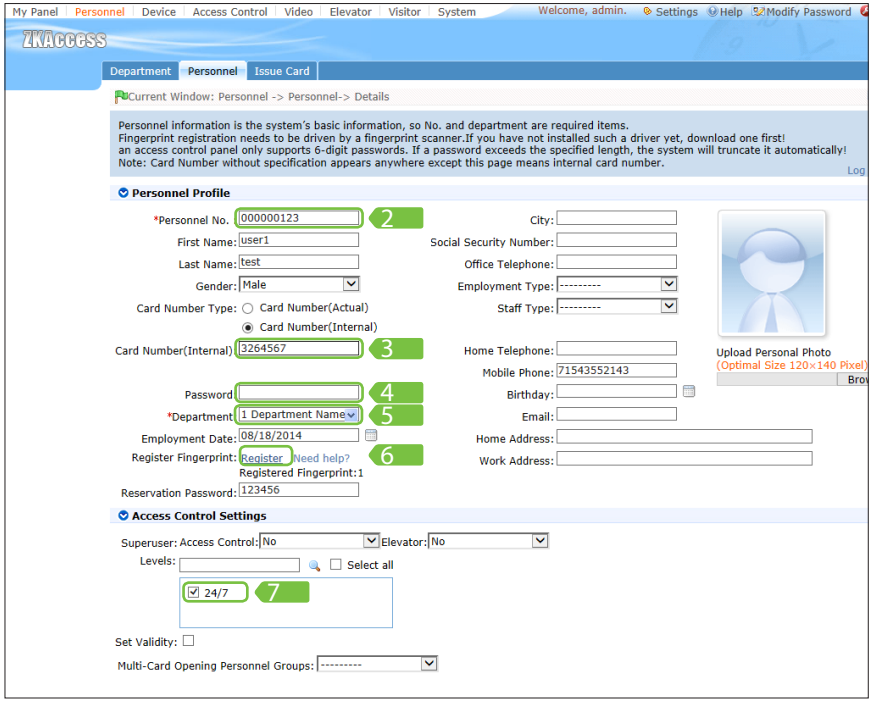
2. Set parameters: access level name (no repetition), access control time zone, door combination

3. Click OK to complete setting and quit, and added access levels will appear in the list.

Enrolling Personnel



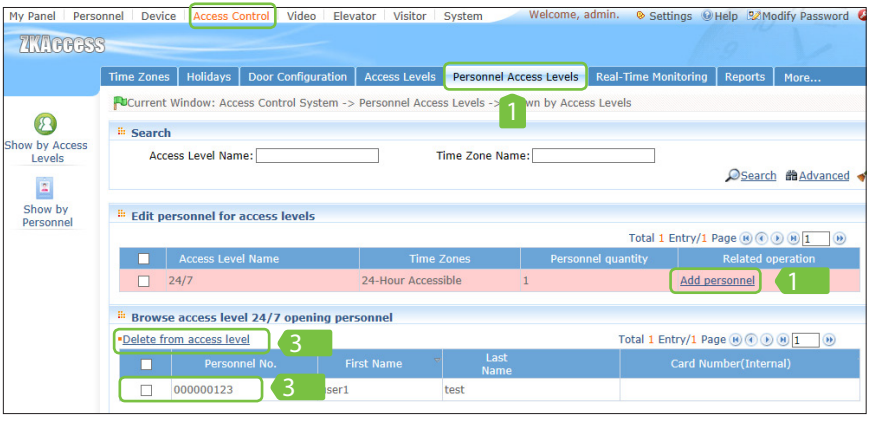
1. Click Personnel > Personnel > Add to show personnel profile edit interface.



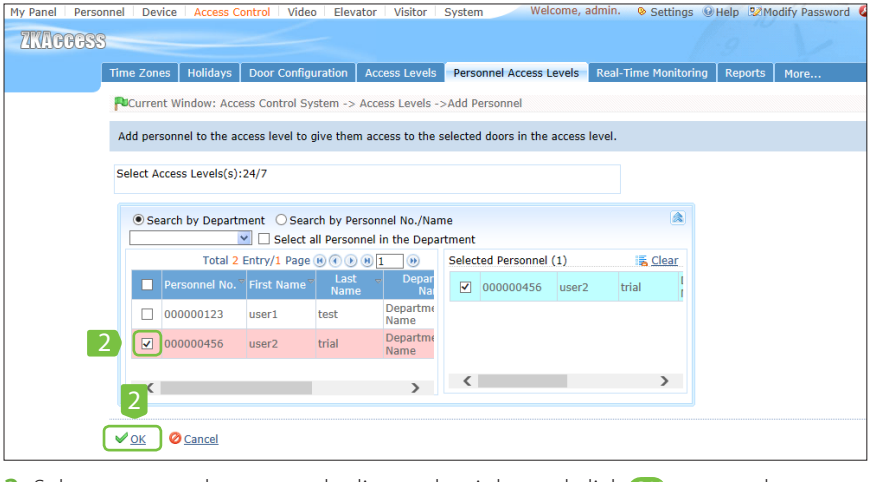
1. **Personnel No.:** By default, the length can not exceed 9 digits A number with a length of less than 9 digits will be preceded with 0 automatically to complete 9 digits. *Numbers can not be duplicated.*
2. **Card number:** You can add a card number through manual entry or a card issuer. In Actual Card Number mode (by default), you must enter both the actual card number and the site code, then the software converts the numbers to the internal card number for access control system verification. In Internal Card Number mode, enter the numbers directly.
3. **Password:** Set personnel password to use on a keypad reader. Password must be 4 to 6 numbers long.
4. **Department:** Select from the pull-down menu and click OK. If the department was not set previously, you can only select the default Company Name department.
5. **Register Fingerprint:** Enroll the Personnel Fingerprint or Duress Fingerprint. If the person presses the Duress Fingerprint, it will trigger the alarm and send the signal to the system.

6. **Access Level:** Click the box next to the access level you would like to add the personnel to. (Optional)

Add & Delete Personnel to Access Level



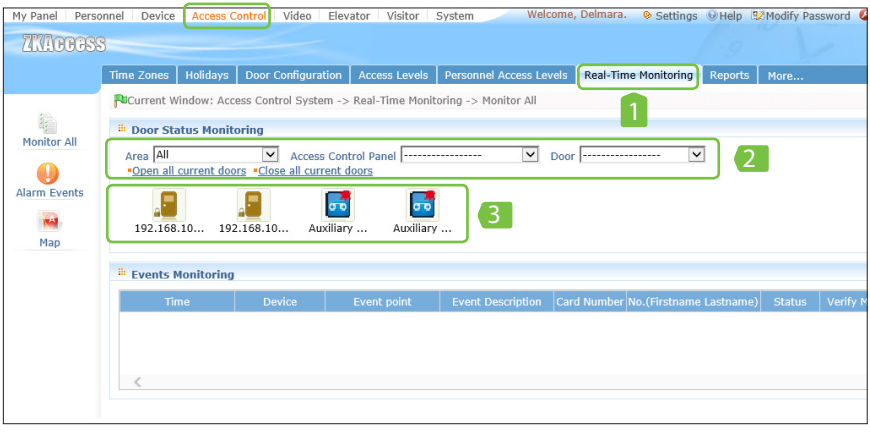
1. Click Access Control > Personnel Access Levels to show current access levels and personnel. Click Add personnel to open the add personnel interface.



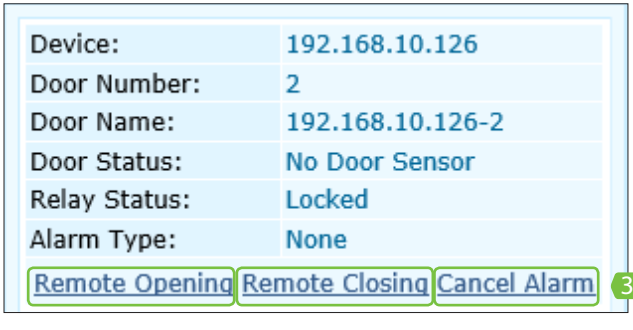
2. Select personnel to create the list on the right, and click OK to complete adding, and added personnel will appear in the list on the right.

3. To delete personnel, select personnel and click Delete from access level.

Real Time Monitoring

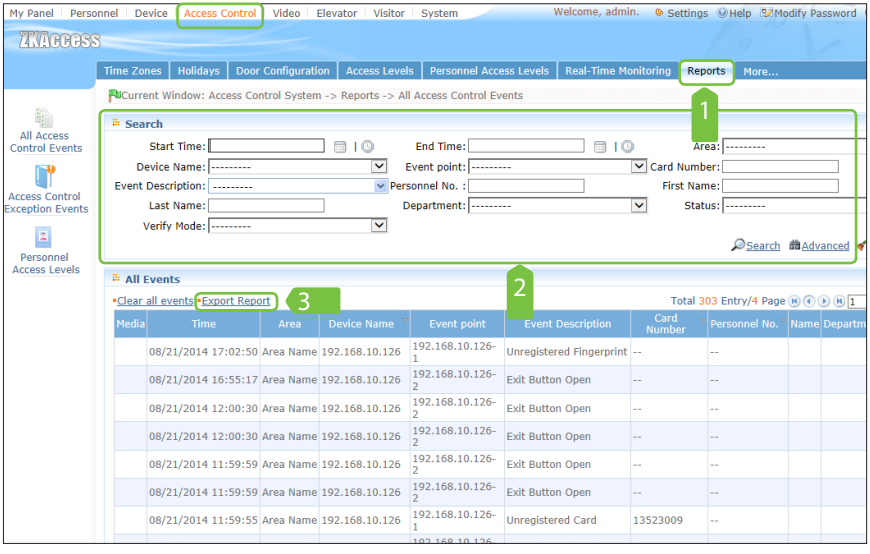


1. Click **Access Control** > **Real-Time Monitoring** to watch a live log of device transactions.
2. Click the **Filters** to limit which device transactions show up or view all devices at once.



3. Hover over a **door icon** to open pop up menu and click **Remote Close**, **Remote Open**, or **Cancel Alarms**.

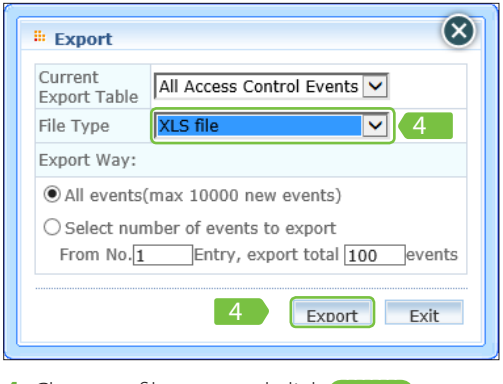
Exporting Reports



1. Click **Access Control** > **Reports** to see a report of transactions from devices.

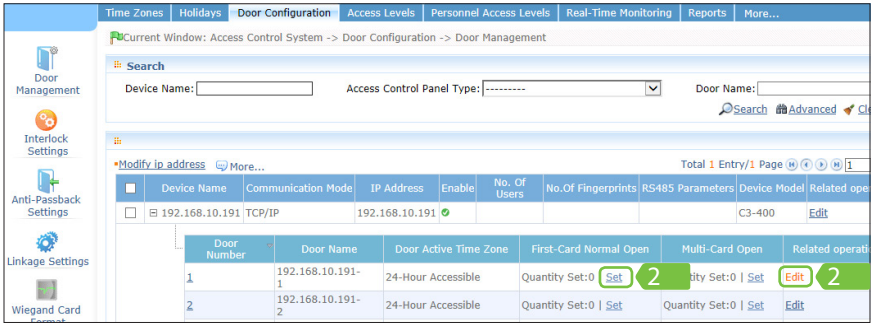
2. Filter by time, date, personnel, or device.

3. Click **Export Report** to open export menu.



4. Choose a file type and click **Export**.

Passage Mode / First Card Normal Open



The Passage Mode feature will keep a door unlocked during a specified time zone. It will automatically unlock at the beginning of the time zone and will lock automatically at the end of the specified time zone.

1. Create a new time zone with the hours you want the door to be unlocked.
2. In Door Configuration, Click Edit to the right of the door you want to change settings on.
3. Click the dropdown menu titled "Door Passage Mode Time Zone" and select your new time zone. Click OK.

The First Card Normal Open feature will keep a door unlocked during a specified time zone when triggered by specified personnel. After a specified personnel swipe unlock at the beginning of the time zone and will lock automatically at the end of the specified time zone.

1. Create a new time zone with the hours you want the door to be unlocked.
2. In Door Configuration, under First-Card Normal Open, click Set.
3. Under First-Card Normal Open Settings, click Add.
4. Click the drop down menu titled Time Zones and choose your new time zone. Click OK.
5. To add the personnel that will trigger the door to stay normal open, click Add an opening person.
6. Click the check box next to the personnel and they will be added to the Selected Personnel list. Click OK.

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Version: December 2014