

Installation Guide



TF1700

Standalone Outdoor Fingerprint Reader Controller
&

ZKAccess | *Classic* software 3.5

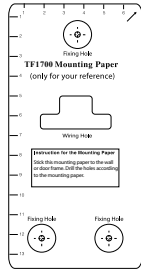
ZKACCESS[®]

ZKAccess.com

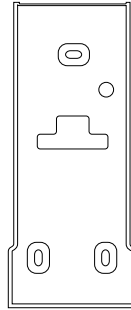
What's in the Box



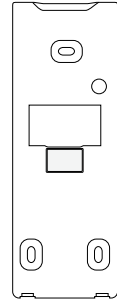
TF1700



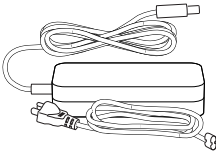
Installation Template



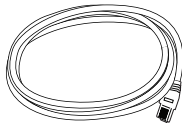
Rubber Gasket



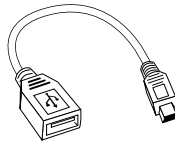
Back Plate



AC Power Adapter



Network Cable



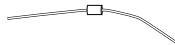
USB Cable Adaptor



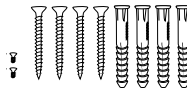
Cables



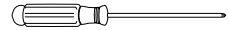
ZKAccess Software



Diode



4 Large Screws & Anchors,
2 Small screws



Screwdriver

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Software Installation and Setup
starts at page 30

Optional accessories



Wiegand Card Reader



Prox Card



FR1200 FP Reader



K1-1 Exit Button

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.



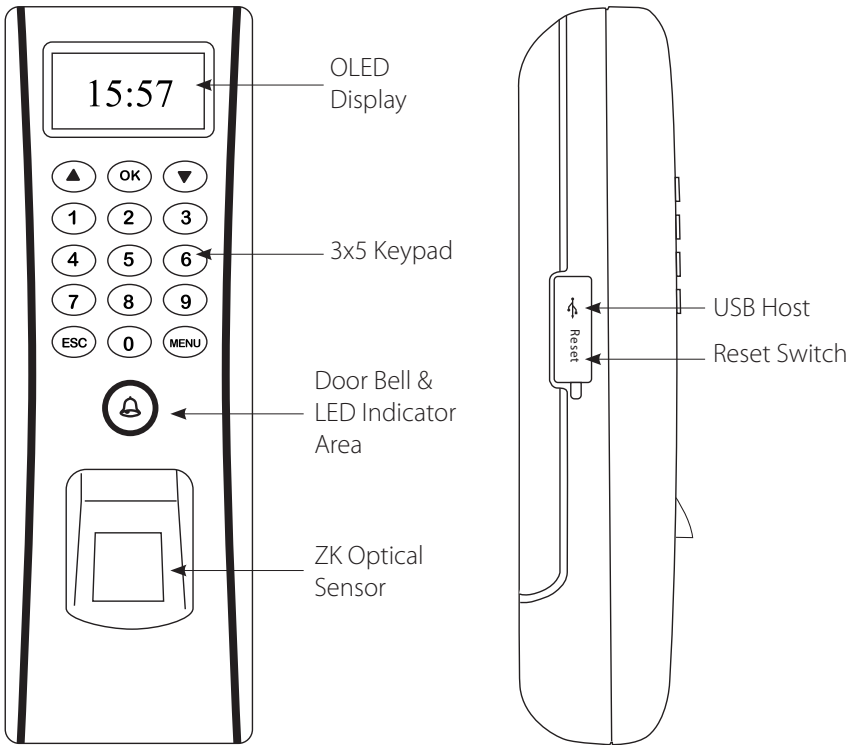
Do not use the device for any other purpose than specified.



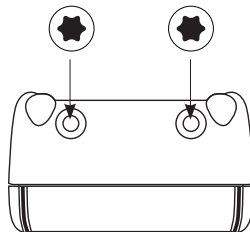
Clean the device often to remove dust on it. In cleaning, do not splash water on the device but wipe it out with smooth cloth or towel.

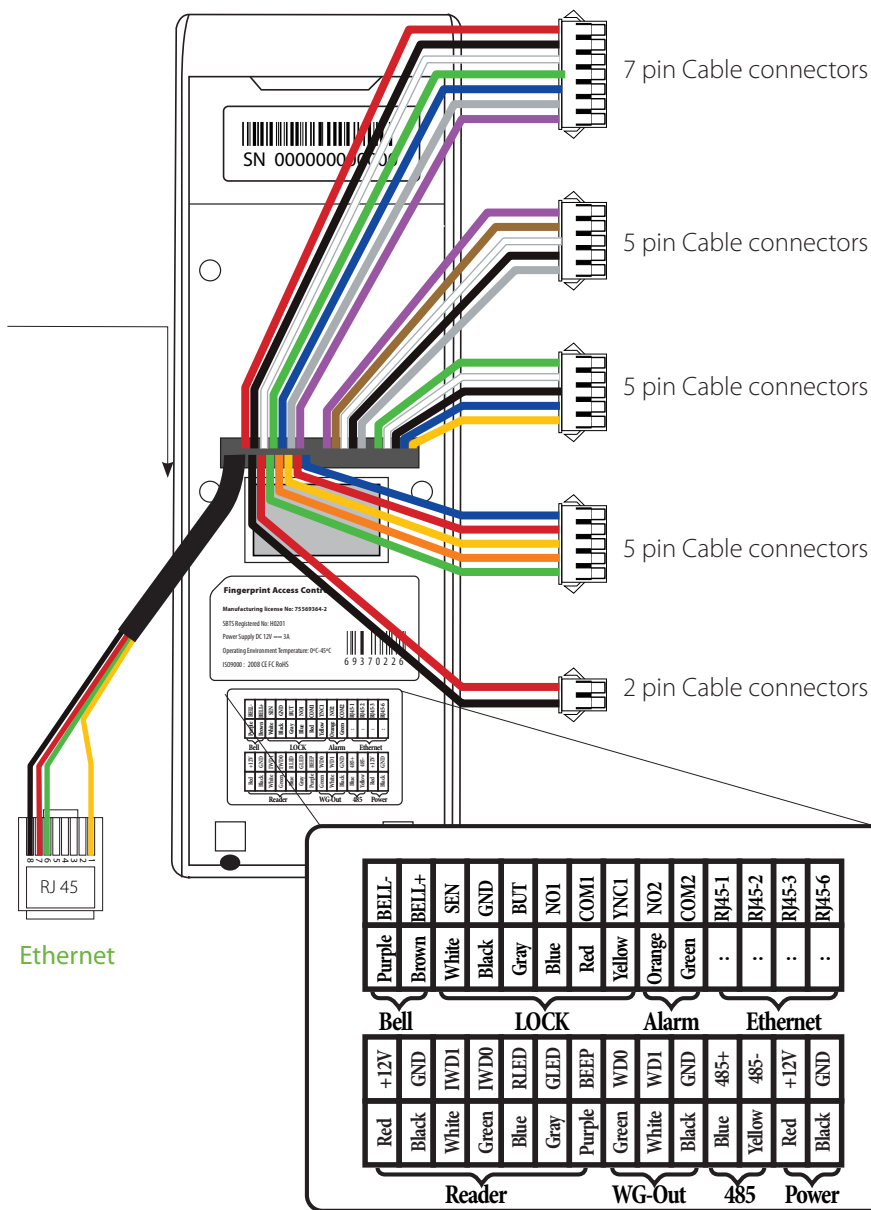
Contact your supplier in case of a problem.

Product PIN Diagram

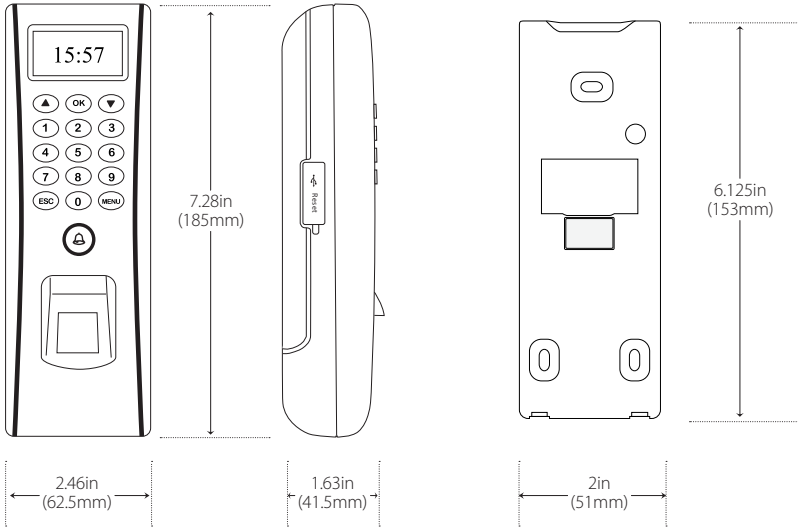


Star-shaped screw hole for fixing reader to the back plate

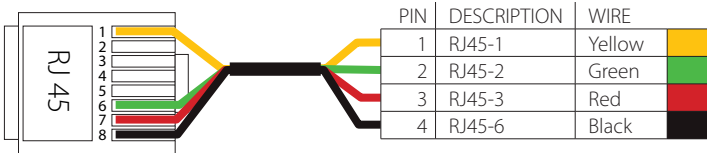
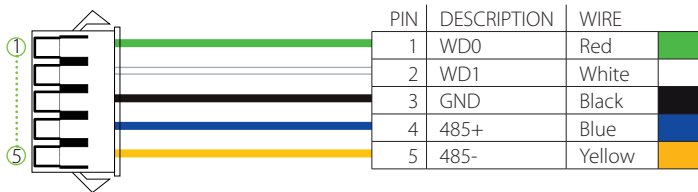
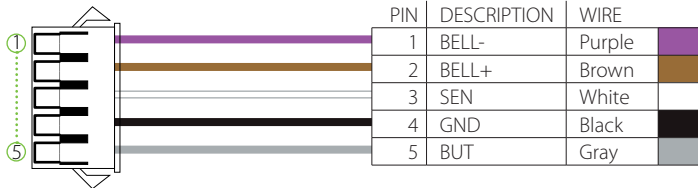
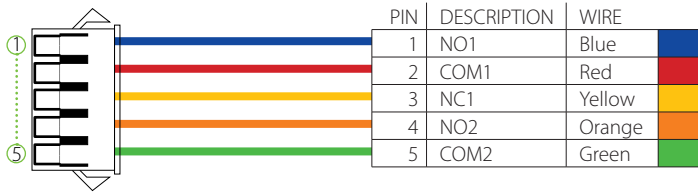
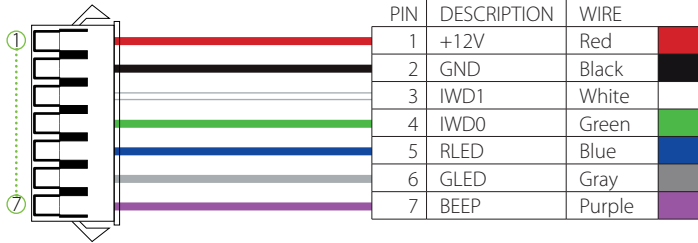




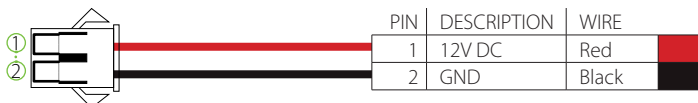
Product Dimension



Cables and Connectors



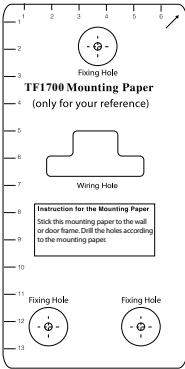
○ TCP/IP



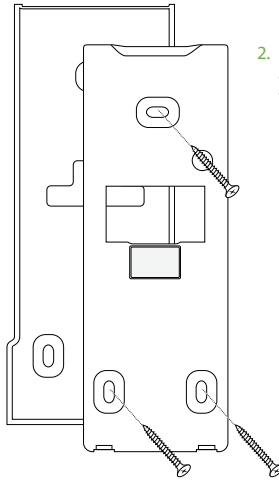
○ Power In

Mounting the reader on the wall

Fix back plate to the wall using wall mounting screws

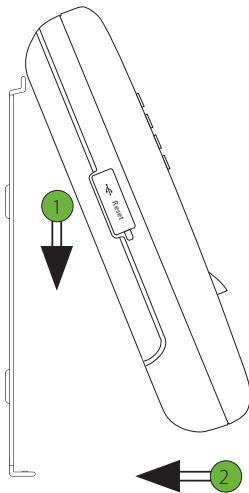


1. Stick the mounting template on the wall and make holes as per the markings.

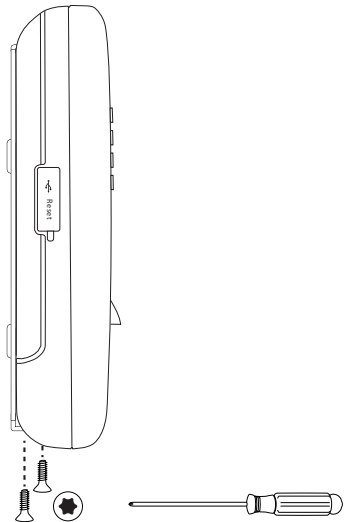


2. Mount the rubber gasket and the back plate on the wall with the help of the supplied screws.

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 molliers (anchors).



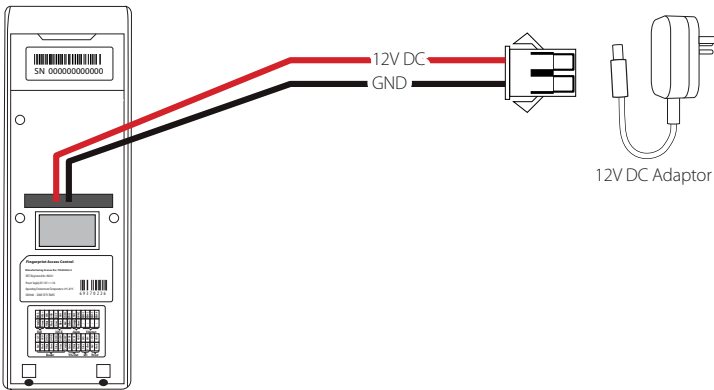
3. Inserting Reader to backplate



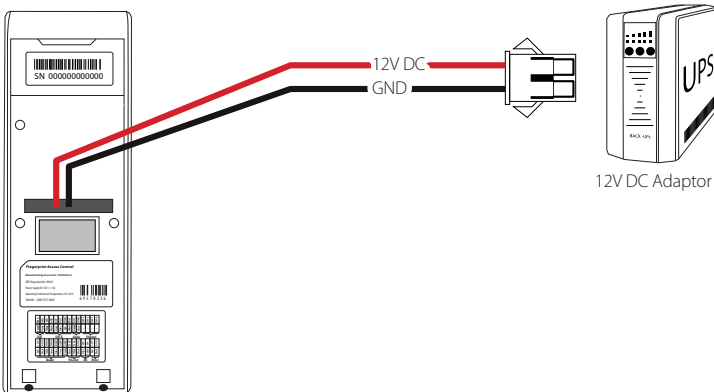
4. Use star-shaped screw to mount it

Power Connection

Without UPS



With UPS (Optional)

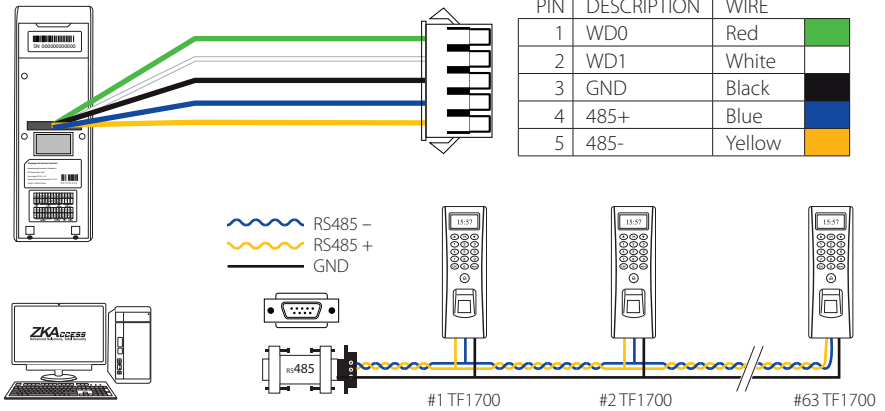


Recommended power supply

- Regulated 12V DC, 1A.
- Comply with standard IEC/EN 60950-1.
- To share the power with other devices, use a power supply with higher current ratings

RS485 Connection

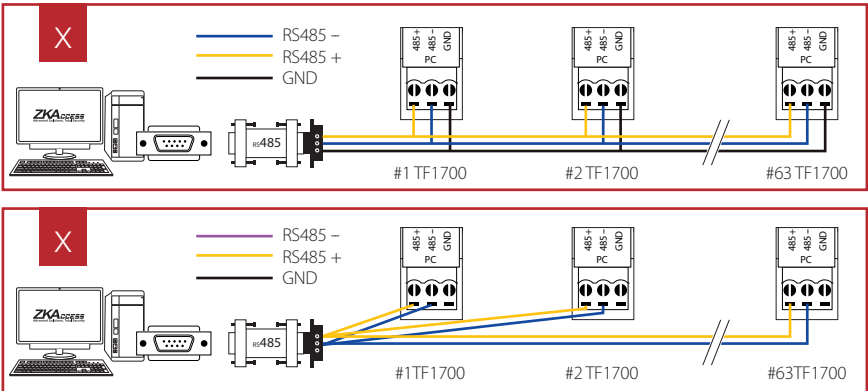
PC Connection



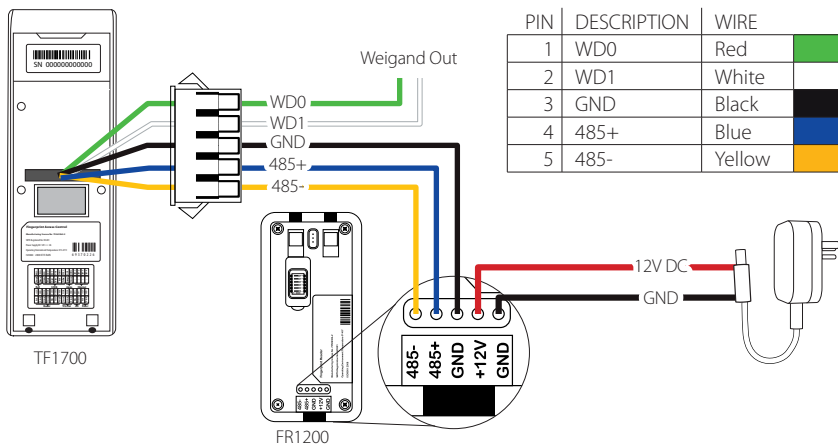
Important Notes:

1. RS485 communication wires should be a shielded and twisted pair cable.
2. RS485 communication wires should be connected in a bus cascade instead of a star form, to achieve a better shielding effect by reducing signal reflection during communications.
3. Adjust the communication speed as needed. The signal quality vary depending on wiring conditions, and it maybe necessary to lower the baudrates.
4. The GND Signal may be omitted **if and only if** the GND potential difference is less than $\pm 5V$

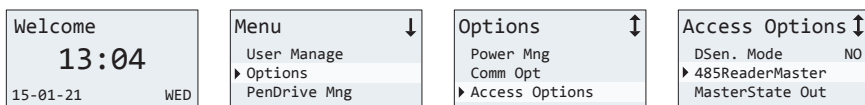
Incorrect RS 485 connections



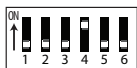
FR1200 Connection



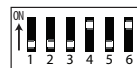
TF1700 Settings



- Steps to activate the master and slave functionality between TF1700 and FR1200 as shown in the diagram on the left.
- 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.
- If FR1200 is powered from TF1700 terminal, the length of wire should be less than 100 meters or 330 ft.
- If the cable length is more than 200 meters or 600 ft., the number 6 switch should be ON as below
- If the 485Reader is set as Slave, it will be used as inBIO-series reader, check page 28 to know more.

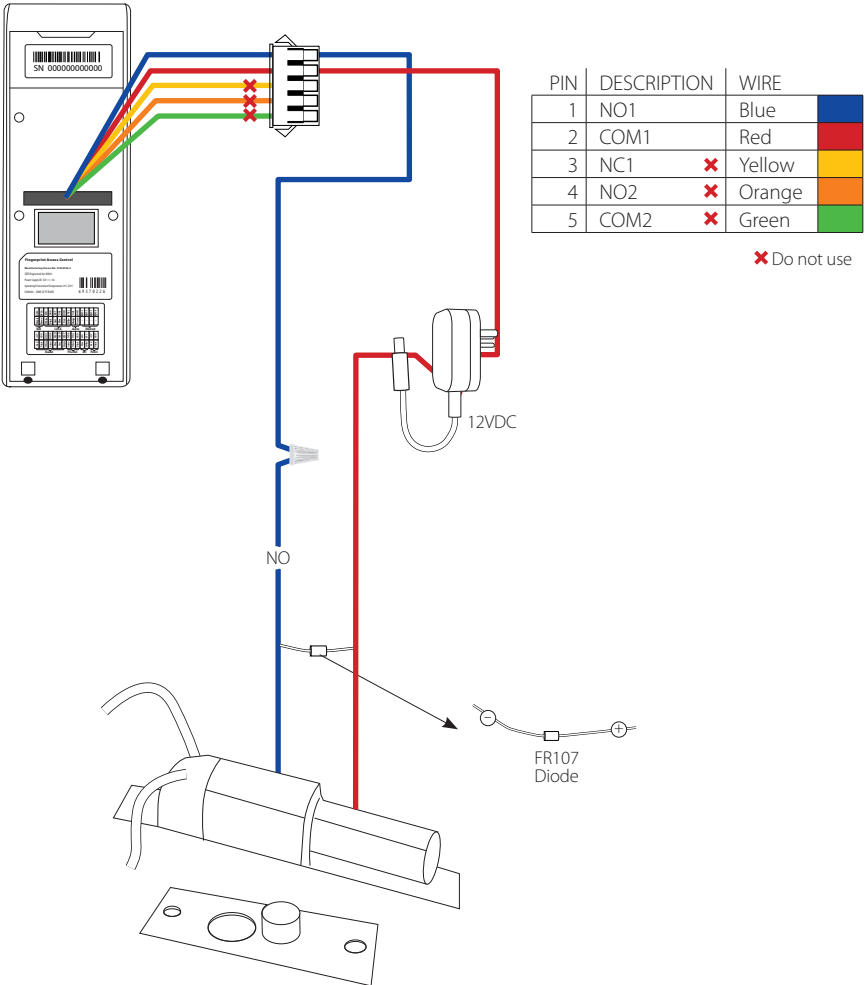


← Distance: More than 200 meters →

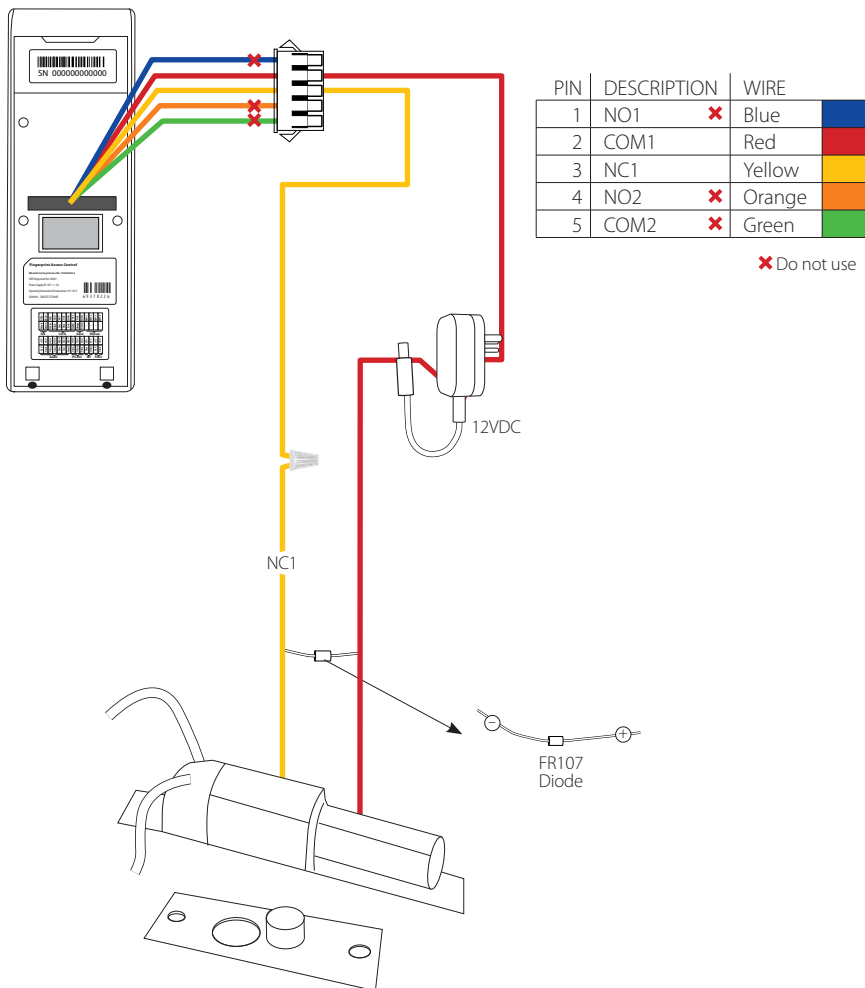


Lock Relay Connection

Normally Open Lock

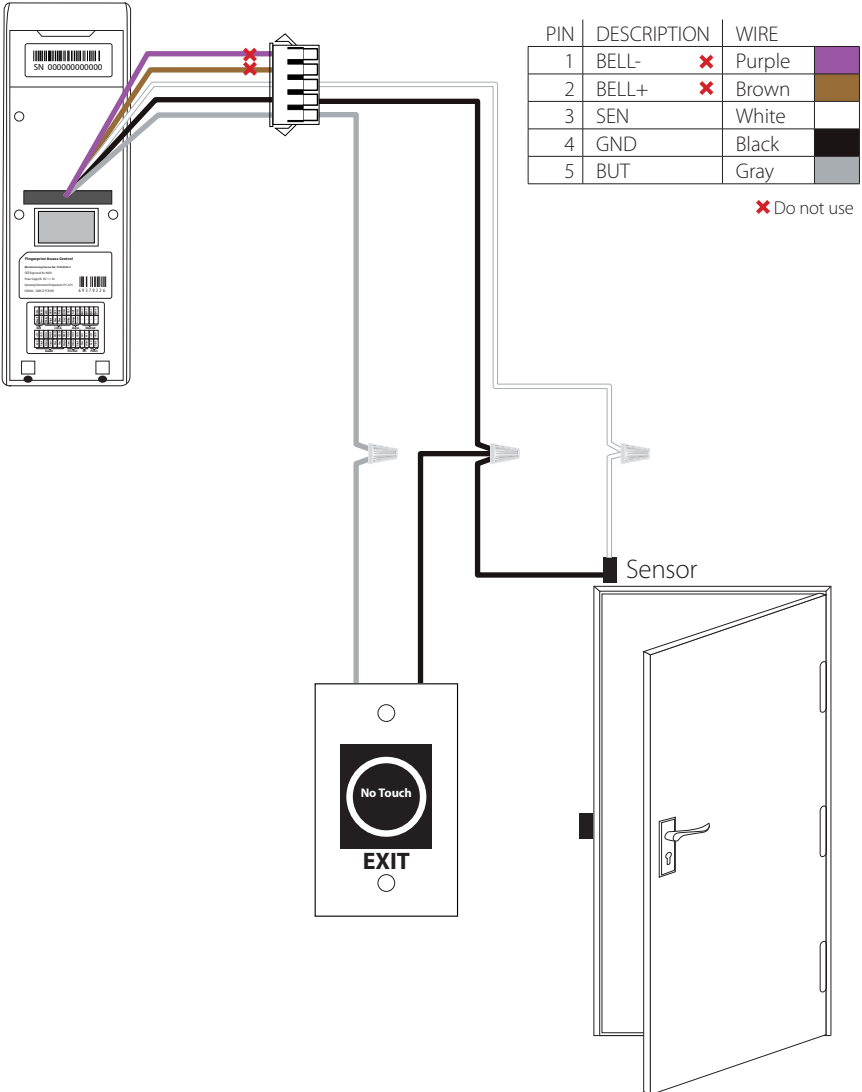


Normally Closed Lock



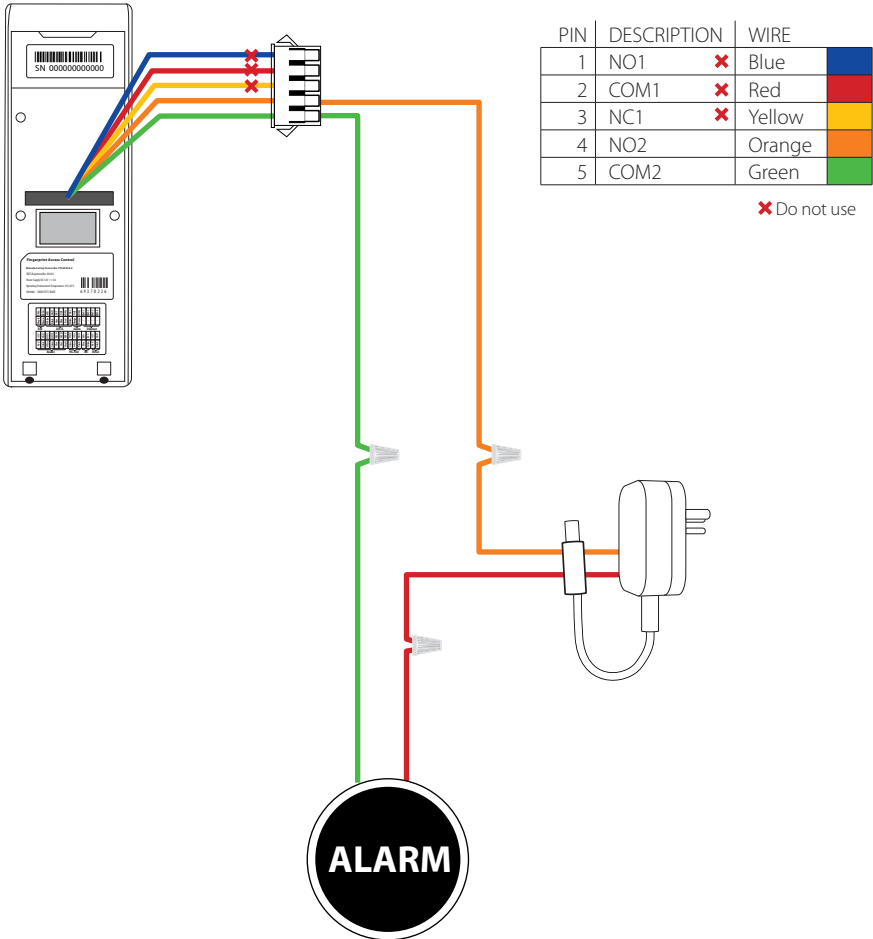
Aux. Input Connection

Exit Button Connection



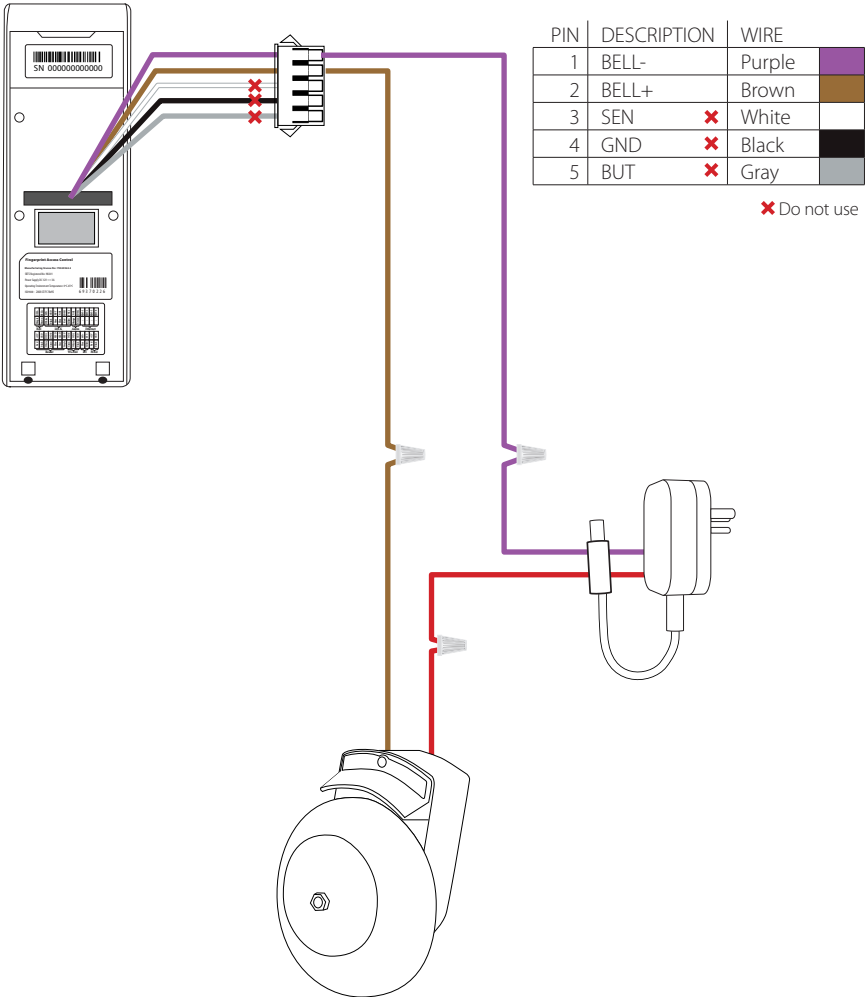
Aux. Output Connection

Alarm Button Connection



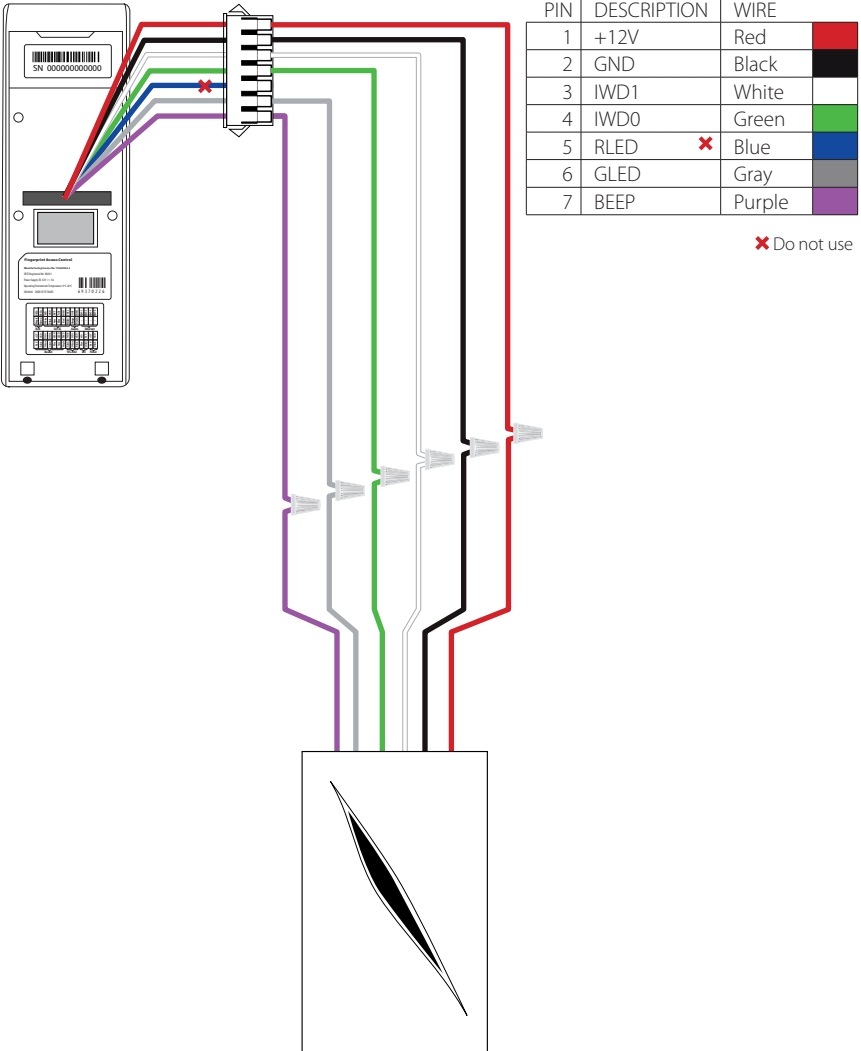
Aux. Output Connection

Door Bell Button Connection



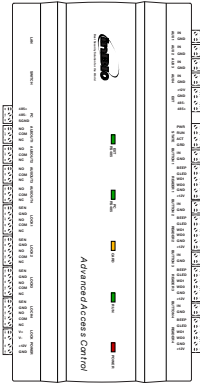
Weigand Input Connection






RFID Button Connection



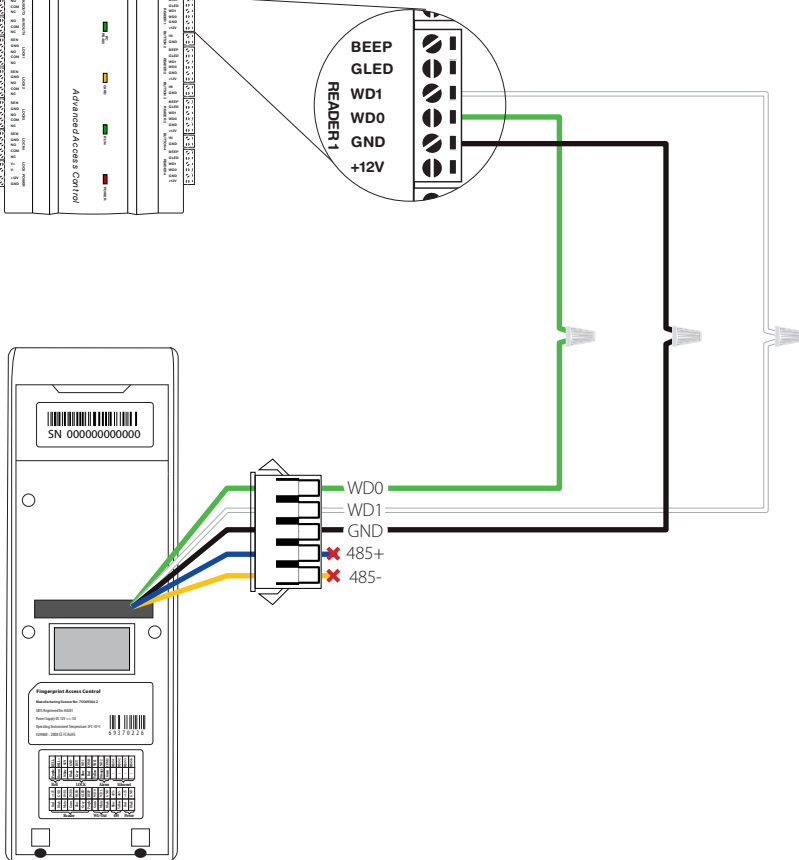
Weigand Output Connection

Access Control Panel



PIN	DESCRIPTION	WIRE	
1	WD0	Red	
2	WD1	White	
3	GND	Black	
4	485+	Blue	
5	485-	Yellow	

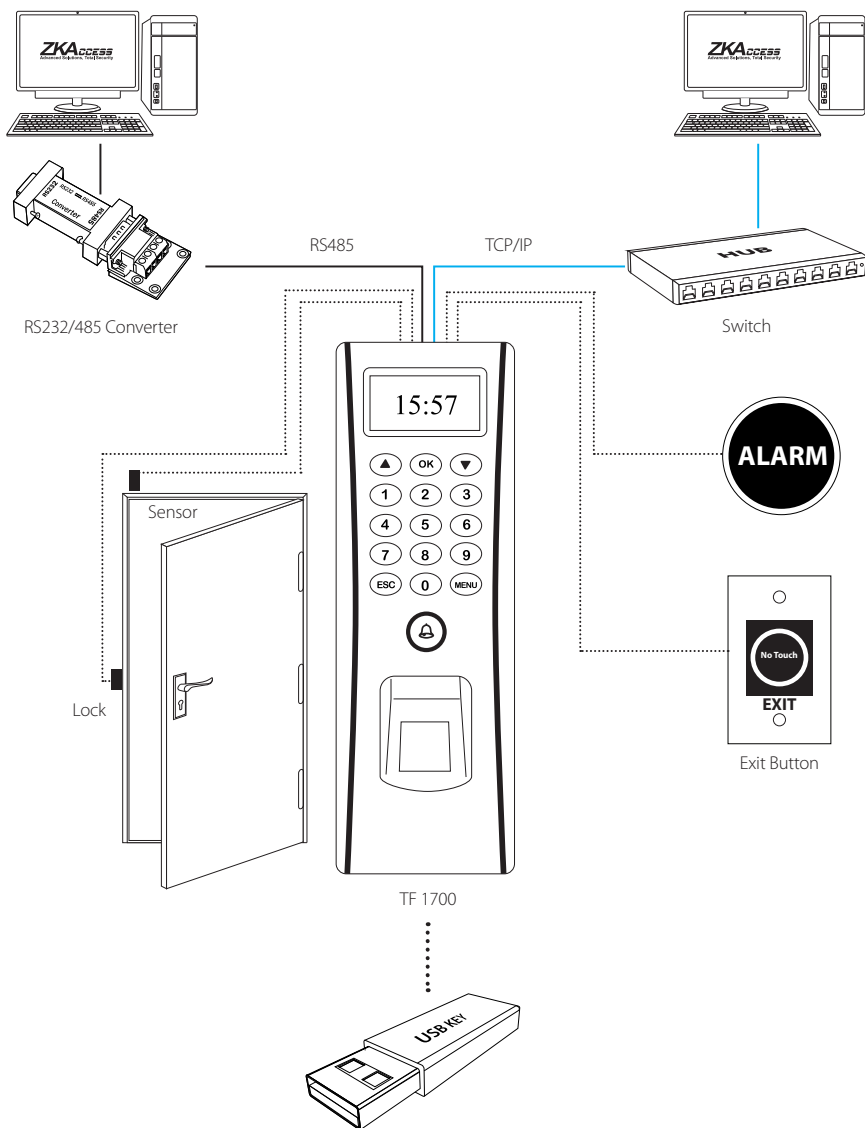
✗ Do not use



TF1700

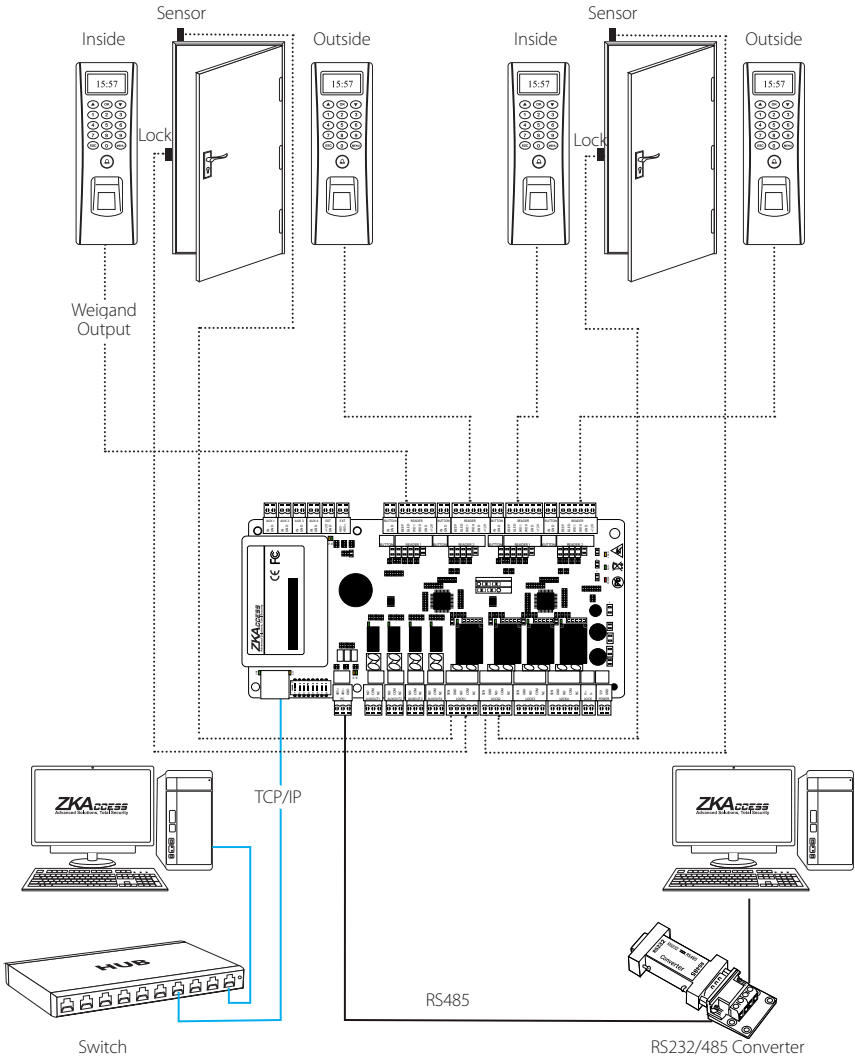
Standalone Installation

FR1200 Connection

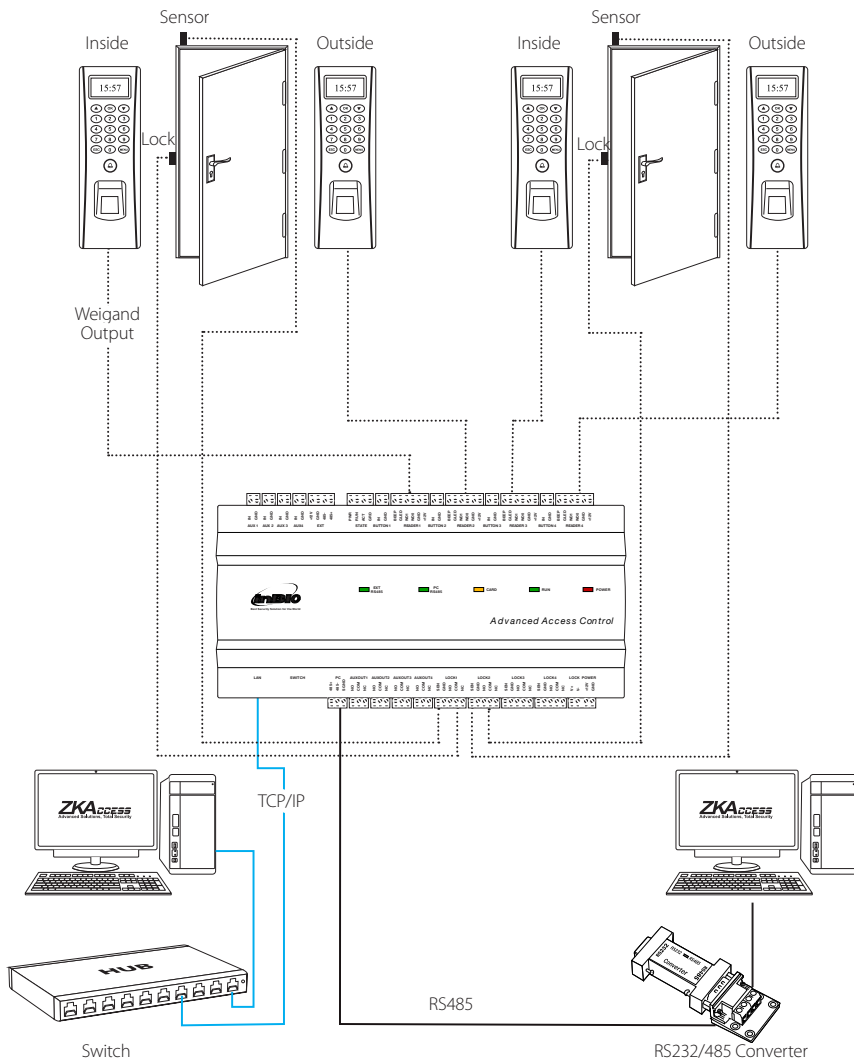


Installation with Third Party Panels

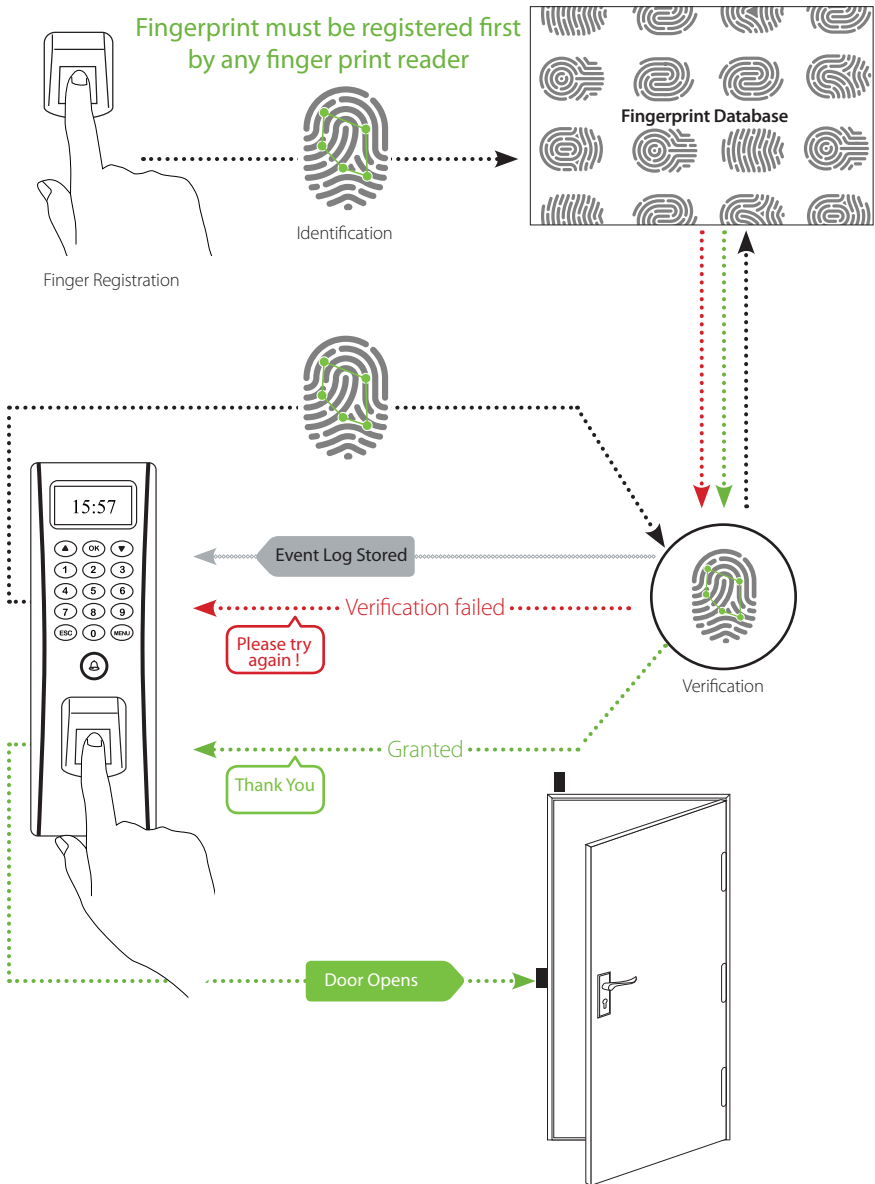
C3 Controller Panel Connection



inBIO Controller Panel Connection



How Does TF1700 Work



Troubleshooting

1. Fingerprint can not be read or it takes too long.

- › Check whether a finger or fingerprint sensor is stained with sweat, water, or dust
- › Retry after wiping off finger and fingerprint sensor with dry paper tissue or a mildly wet cloth.
- › If a fingerprint is way too dry, blow on the finger and retry.

2. Fingerprint is verified but authorization keeps failing.

- › Check whether the user is restricted by group or time zone.
- › Check with administrator whether the enrolled fingerprint has been deleted from the device for some reason.

3. Authorized but door does not open.

- › Check whether the lock open duration is set to appropriate time, which opens the lock.
- › Check whether anti-passback mode is in use. In anti-passback mode, only the person who has entered through that door can exit.

4. Why device display “system broken” and the alarm is ringing.

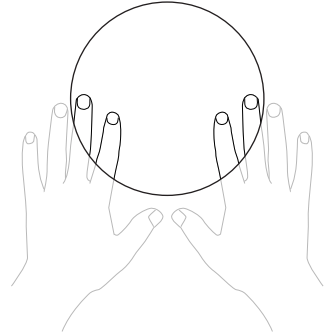
- › Check whether the device and back plate are securely connected to each other. If not, a tamper switch is activated which triggers the alarm and keeps it ringing.

How to Place a Finger on Scanner

ZKTeco's fingerprint readers will give optimal results for fingerprint matching if the following recommendations and suggestions are followed.

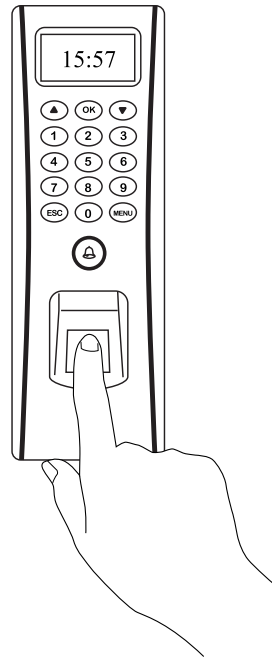
Select a finger to enroll

- It is recommended to use an index finger or a middle finger.
- Thumb, ring or little finger are relatively difficult to place in the correct position

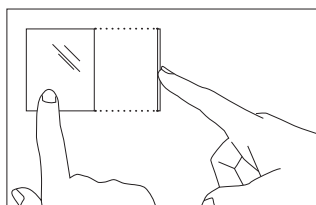


How to place a finger on a sensor

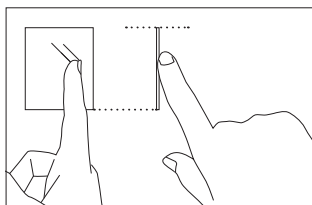
- Place a finger such that it completely covers the sensor area with maximum contact.
- Place core of the fingerprint at the center of the sensor. *The core of a fingerprint is a center where the spiral of ridges is dense. (Usually core of fingerprint is the opposite side of the lower part of a nail.)*
- Place a finger such that the bottom end of a nail is located at the center of a sensor.



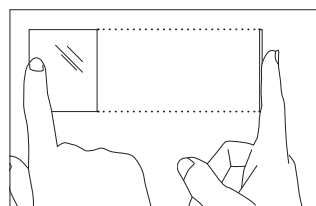
DO NOT place the finger in the following positions



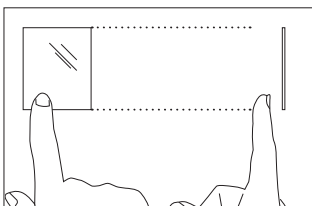
Upright



Skewed



Sideways



Partial

If a finger is placed as shown on the left, only a small area of a finger is captured. So it is recommended to place a finger as shown on page 24.

Tips for different fingerprint conditions

- ZKTeco's fingerprint products are designed to verify fingerprints with highest security irrespective of the conditions of the skin of the finger. However, in case a fingerprint is not read on the sensor, please refer to the followings tips.
 - › If a finger is stained with sweat or water, scan after wiping moisture off.
 - › If a finger is covered with dust or impurities, scan after wiping them off.
 - › If a finger is way too dry, please blow some warm air from your mouth on the finger tip.





Tips for fingerprint enrollment

- In fingerprint recognition, enrollment process is very important. When enrolling a fingerprint, please try to place the finger correctly with utmost care.
- In case of low acceptance ratio, the following actions are recommended.
 - › Delete the enrolled fingerprint and re-enroll the finger.
 - › Try another finger if a finger is not easy to enroll due to scar or cuts.
- In case of an enrolled fingerprint cannot be used due to injury or if the hand is full, it is recommended to enroll more than two fingers per user.

Electrical Specifications

	Minimum	Typical	Maximum	Notes
WORKING POWER SUPPLY				
Voltage (V)	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	
SWITCH AUX. INPUT				
V _H (V)		TBD		
V _L (V)		TBD		
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	
TTL/WIEGAND OUTPUT				
V _{OH} (V)		5		
V _{OL} (V)		0.8		
Pull-up resistance (Ω)		4.7K		The outputs ports are open drain type, pulled up with 4.7k resistors internally
ZK ELECTRONIC LOCK				
Voltage (V)	10.8	12	13.2	
Current (mA)			500	

Specifications

Fingerprint Capacity	3,000 (Optional 8000 FP if with pull firmware)
Transaction capacity	100,000
Hardware Platform	ZEM720
CPU	ZK 6001, 400Mhz
Memory	64MB Flash, 32MB SDRAM
Fingerprint Sensor	ZK optical sensor
Display	128 x 64 OLED screen
LED Indicator	Red, Green
Communication	Ethernet (10/100M), RS485, USB-HOST
Wiegand Signal	Wiegand Input and Wiegand Output
Identification Speed	≤1 sec
FAR	≤0.0001%
FRR	≤1%
Operating Temperature	32° to 113° F (0° to 45° C)
Operating Humidity	20%-80%
Language	English, Spanish, Portuguese, French, Thai..
Power Supply	12V DC, 3A
Access control interfaces	Electric lock, alarm, exit button, wired door bell
Dimension	W: 62.5x H: 185x D: 41.5mm (W: 3 1/8"x H: 7 1/4" x D: 1 5/8")
Certified	   

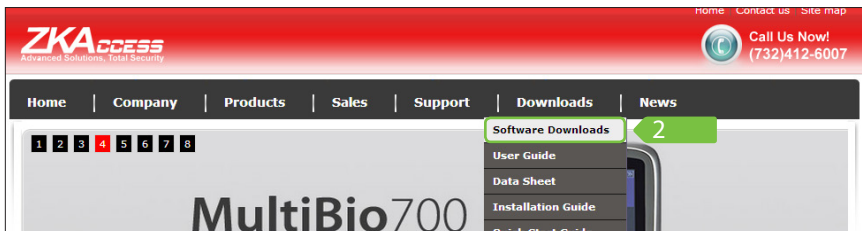
ZKAccess *CLASSIC* 3.5 Installation Guide



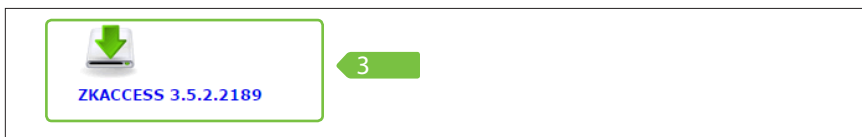
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Downloading



1. Go to zkaccess.com
2. Hover over [Downloads](#) then click [Software Downloads](#) in the dropdown menu.

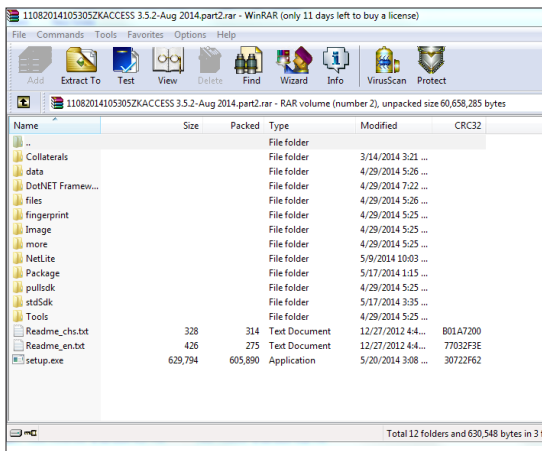
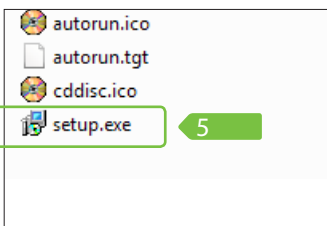


3. Scroll to the bottom of the page and click [ZKACCESS CLASSIC 3.5](#) to download

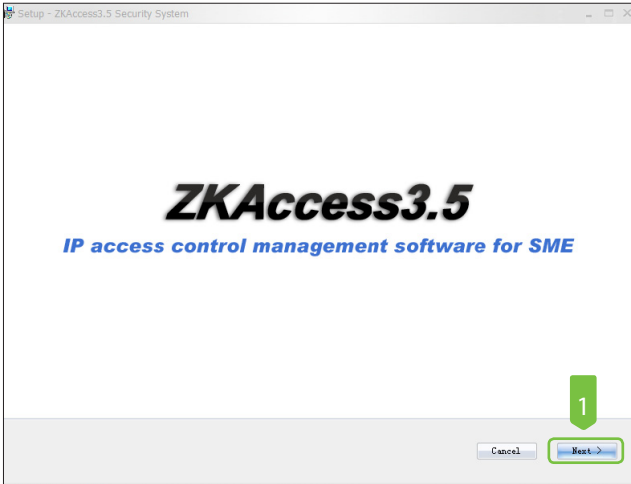


If you do not have software to extract compressed files, Scroll up on the same page to find [Winrar 32](#) or [Winrar 64](#) to *download*

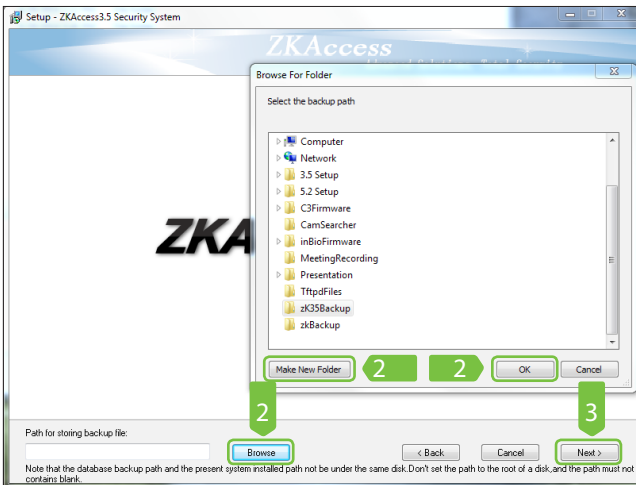
4. Extract Files to a Setup Folder
5. Open the setup folder and run [setup.exe](#) to install



Installation



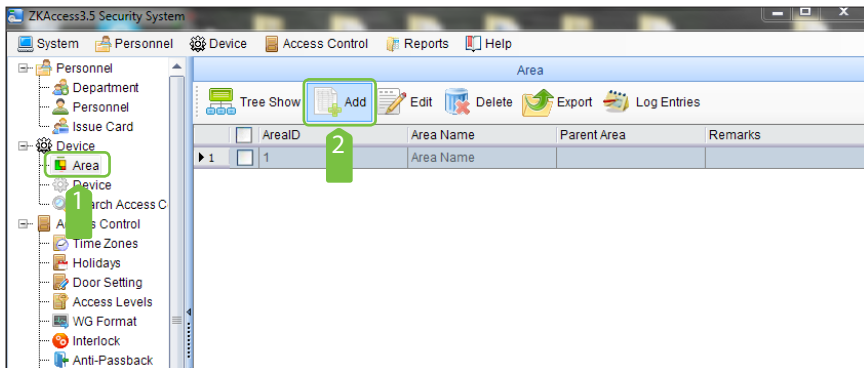
1. Click **Next** until asked to choose a path for storing backup files



2. Click **Browse** and **Make New Folder**, now click **OK**
3. Click **Next** and then **Install**

Adding an Area

Before adding devices, it is required to add an area to manage devices. The system, by default, has set an area named **Area Name** and **Area ID [1]**.



1. Click **Area**
2. Click **Add**

Area Name **3** *

Area Code **4** *

Parent Area **5** *

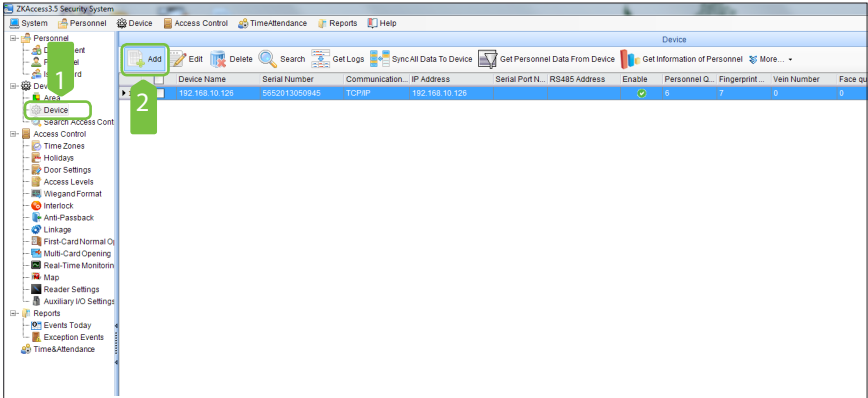
Remarks

6

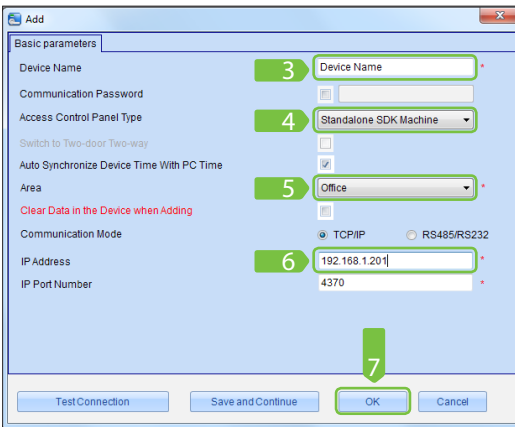
3. Input the Area Name,
4. Area Code (Unique ID number up to 8 digit)
5. Choose a Parent Area from the dropdown menu
6. Click **OK**

Adding a Device

To add a standalone device:

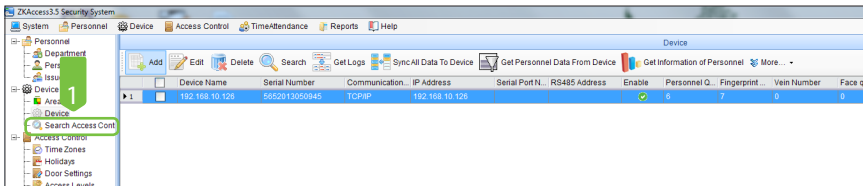


1. Click **Device**
2. Click **Add**

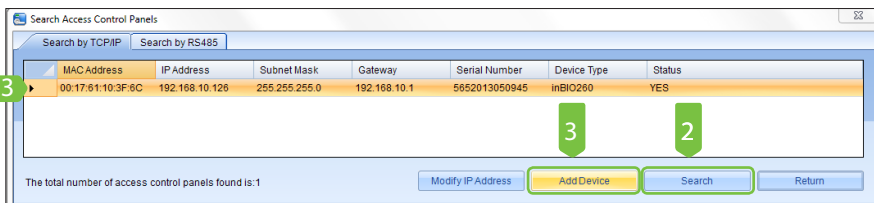


3. Input a Device Name
4. For Access Control Panel Type, select [Standalone SDK Machine]
5. Choose an Area
6. Input the device's IP Address
7. Click **OK**

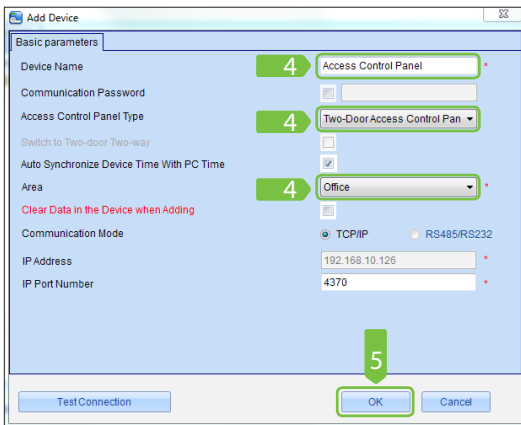
To add an Access Control Panel:



1. Click **Search Access Control Panels**, to show the Search interface, supports Ethernet and RS485 search.



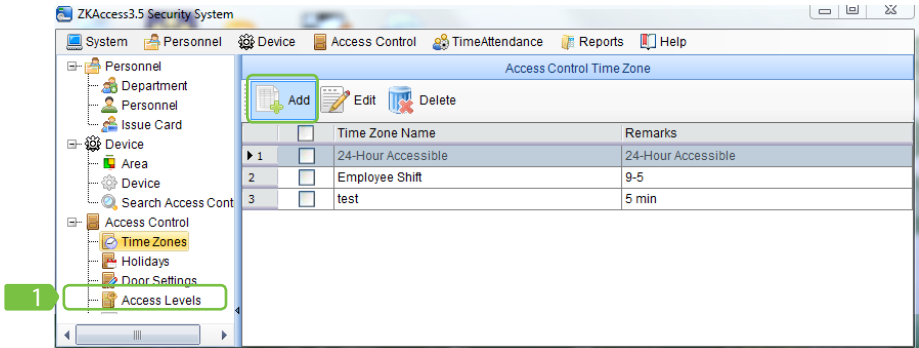
2. Click **Search**, and it will prompt [Please wait.....];
3. Click the device you wish to add. Click **Add Device**



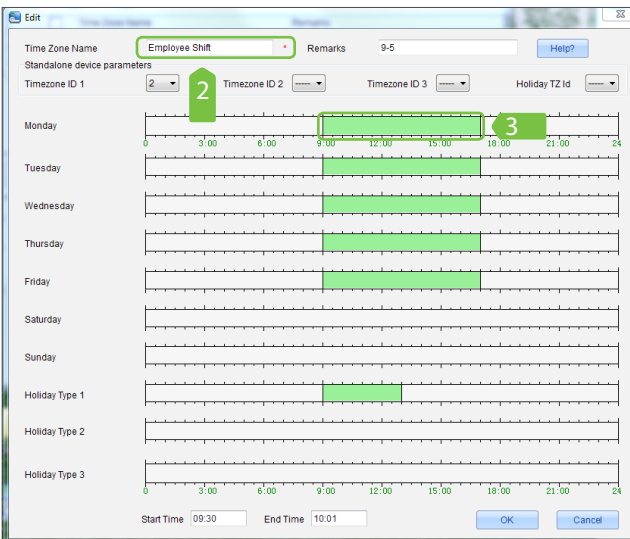
4. Input a device name, type, and area.
5. Click **OK**

Creating a Time Zone

Time Zones are used to set when readers will be active, when doors will be open, and when specified users will have access to specified doors.



1. Click **Access levels** > **Add** to enter Add access levels edit interface;

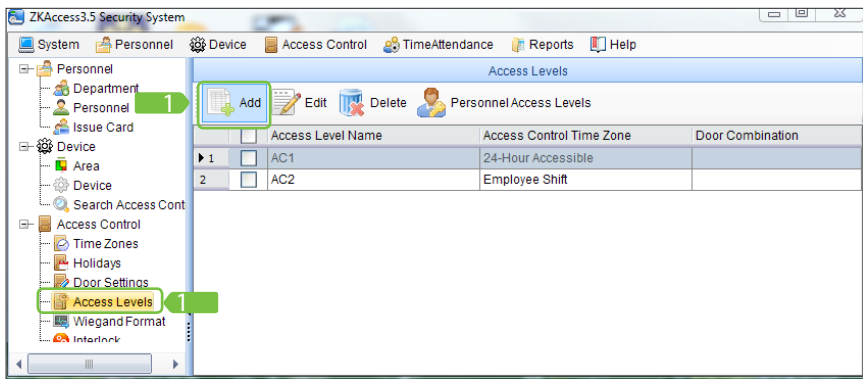


2. Input a Time Zone Name

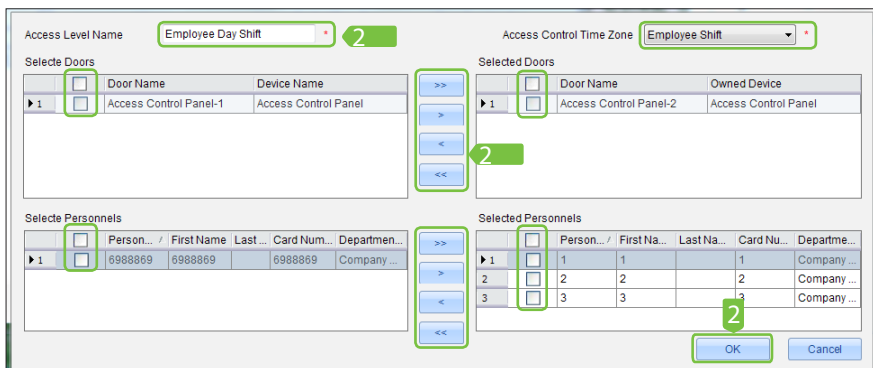
3. Click and drag in each day's frame to set up to three intervals per day or holiday

Creating an Access Level

Access levels means in a specific time period, which door or door combination can be opened through verification



1. Click **Access levels** > **Add**

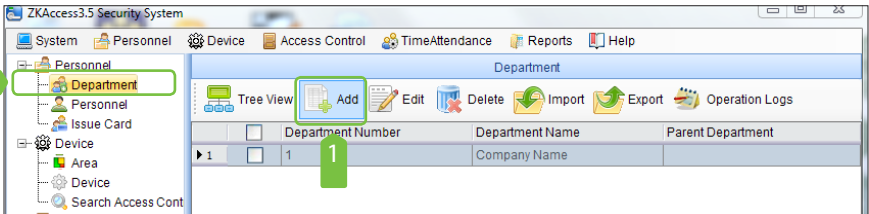


2. Set the access level name, time zone, doors, and personnel that will have access.
3. Click **OK** to complete setting and quit

Creating Departments / Enrolling Personnel

Before managing Personnel it is required to describe the company's departmental organization.

Creating Departments



1. Click **Department** > **Add** to create Departments.

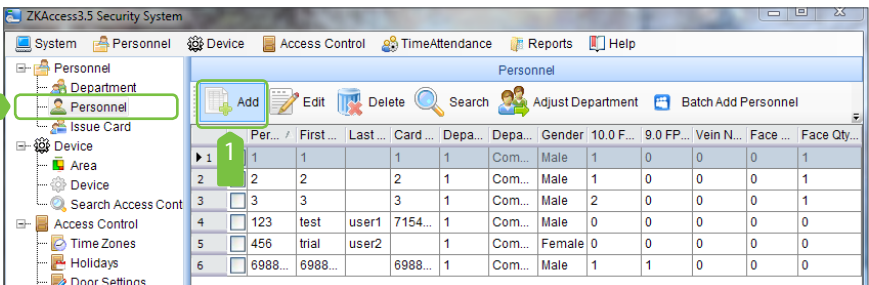
2. Input department name and department number. Choose parent department. Then click **OK**

Department Name

Department Number

Parent Department

Enrolling Personnel



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

The screenshot shows the 'Personnel Profile' form with the following fields and callouts:

- 2: Personnel Number (103456789)
- 3: Department (Company Name)
- 4: Card Number (1034567)
- 5: Password (*****)
- 6: Fingerprint Register (USB Sensor)
- 8: Terminal management (Employee)

Other fields include: First Name (User), Last Name (User), Gender (Female), Employee Date (2014-08-27), Birthday (2014-08-27), and Email. A 'Browse' button is next to a placeholder image for the employee.

2. Enter a Personnel Number. It cannot exceed 9 digits.
3. Select a department from the pull-down menu
4. (Optional) Enter a card number manually or using a card issuer.
5. (Optional) Enter a password for readers with keypad
6. (Optional) Click USB Sensor to enroll fingerprints.

7. Select a finger and press on the sensor three times. When you see "Succeed in fingerprint registration" Click **OK**



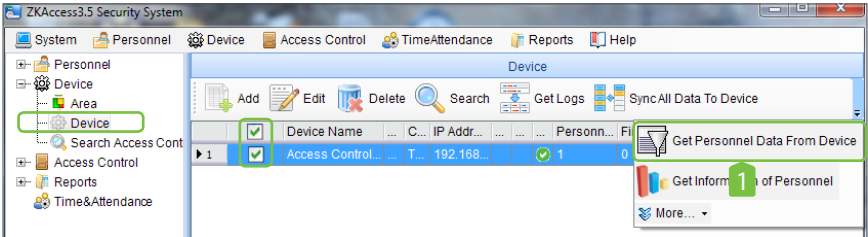
The screenshot shows the 'Alternative Access Levels' tab. It contains two tables:

Alternative Access Levels	Selected Access Levels
<input type="checkbox"/>	<input type="checkbox"/>
Access Level Name	Access Level Name
Access Control Time...	Access Control Time...
▶ 1 <input type="checkbox"/> AC1 24-Hour Accessible	▶ 1 <input type="checkbox"/> AC2 Employee Shift

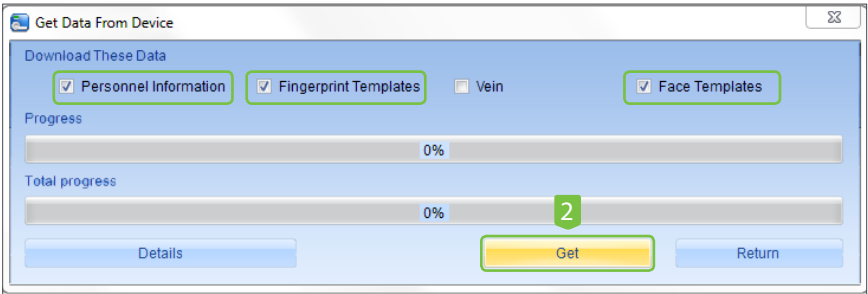
Below the tables are fields for 'Multi-Card Opening Group', 'Set Valid Time', 'Start date' (2014-08-27), and 'End Date' (2014-08-27). Callout 9 points to the 'OK' button at the bottom.

8. (Optional) Register employee as Administrator through [Terminal Management]
9. Click the **Alternative Access Levels** tab choose the user's Access Level. Click **OK**

Importing Personnel Data from Device

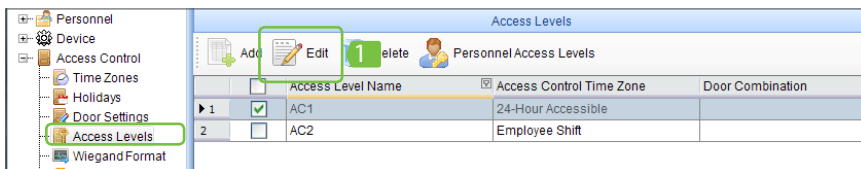


1. Click **Device**. Choose a device to import personnel from.
Get Personnel Data From Device to import from device

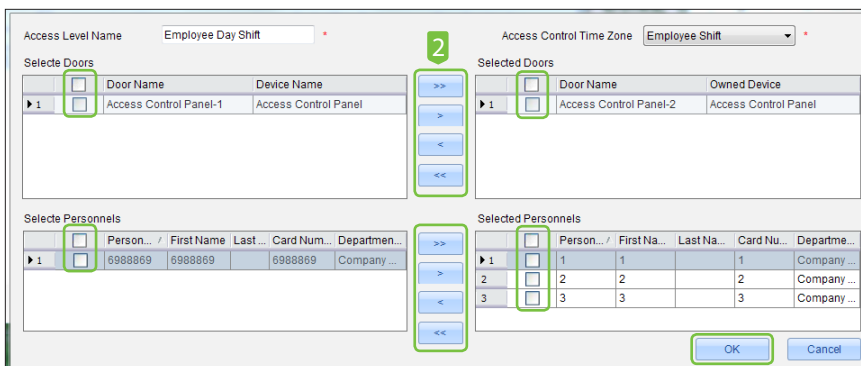


2. Choose Personnel, Fingerprints, or Face Templates to download, click **Get**

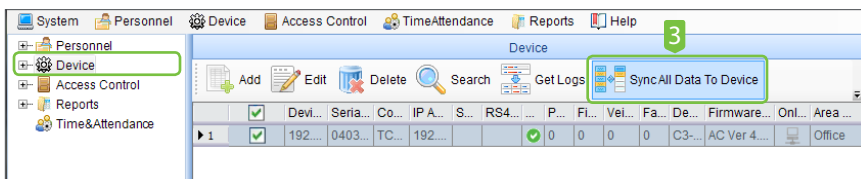
Exporting Personnel Data to Device



1. To export personnel data to another device, go to **Access levels** > **Edit**

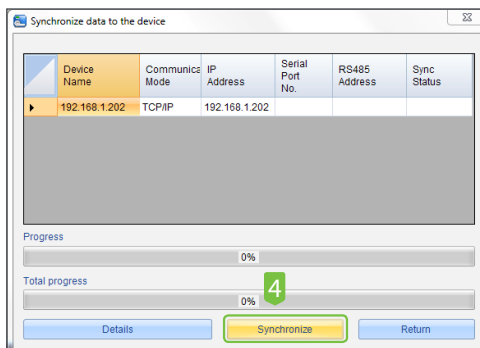


2. Add the personnel and device to an access level. Click **OK**

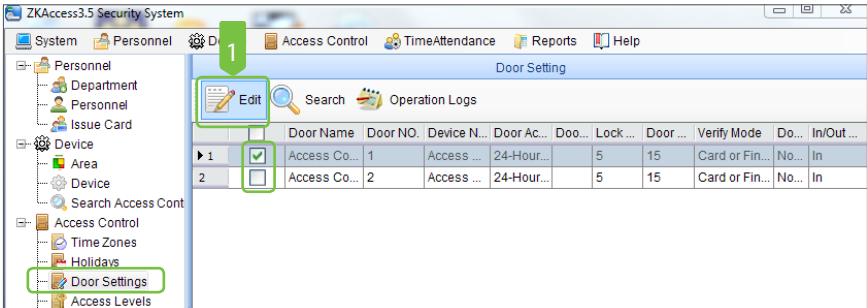


3. Go to **Device**, choose a device to export the personnel to, and click **Sync All Data To Device**

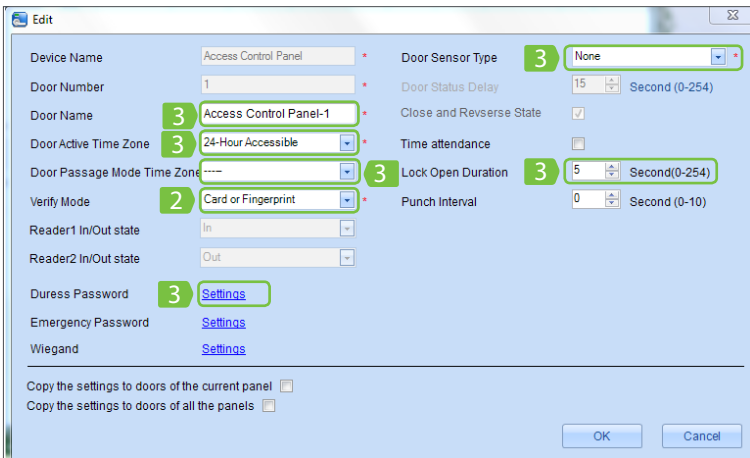
4. Click **Synchronize**.



Door Settings



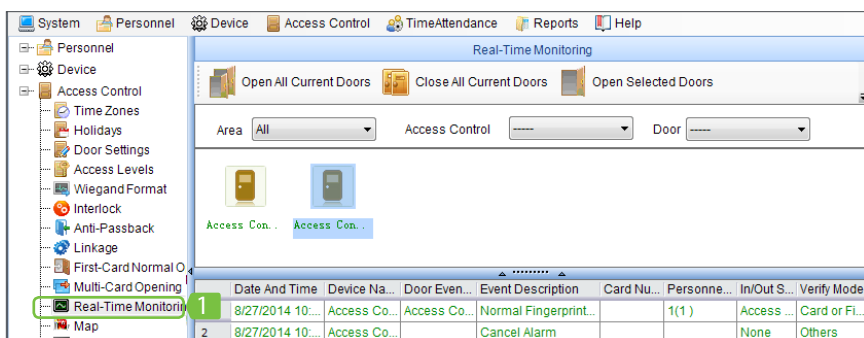
1. Click **Door Setting**, select the door to be modified, click **Edit**



2. Set the verification mode desired for the door.
3. (Optional) Modify the Door's name, active time zone, passage mode, sensor type, lock open duration, and duress settings.

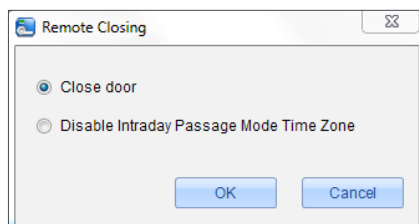
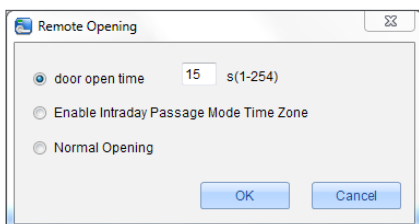
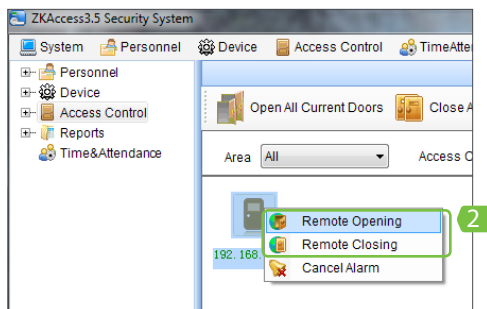
Real Time Monitoring

Monitor the statuses and real-time events of doors under the access control panels in the system in real-time.



1. Click **Real-Time Monitoring** to view live events

2. Right click on the door icon to remote open/close.



3. Choose door open time or Enable Intraday Passage Mode

4. Choose close door or Disable Intraday Passage Mode

Exporting Reports

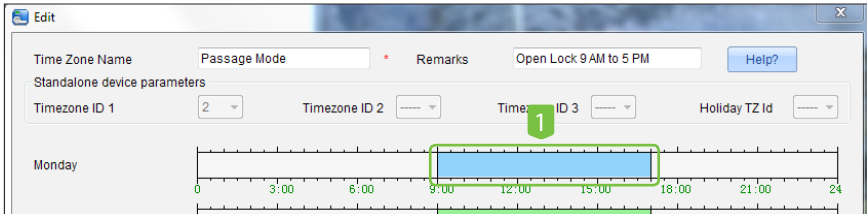
The screenshot shows the ZKAccess3.5 Security System interface. The 'Reports' menu is highlighted in the left sidebar (1). The 'Events Today' window is open, showing search filters for Time period (2014-06-01 to 2014-09-11), Card Number, In/Out Status, Device Name, and Event Description. The 'Search' button is highlighted (2). The 'Export' button is highlighted (3). Below the search filters is a table of events.

Date And T...	Perso...	Firs...	Last ...	Car...	Devic...	Event P...	Verif...	In/O...	Event D...	Remarks
1	2014-08-27 ...	1	1		Acces...	Acces...	Card...	IN	Normal ...	
2	2014-08-27 ...				Acces...	Acces...	Others	None	Cancel ...	
3	2014-08-27 ...				Acces...	Acces...	Others	None	Opened...	
4	2014-08-27 ...				Acces...	Acces...	Others	None	Door Cl...	
5	2014-08-27 ...				Acces...	Acces...	Others	None	Exit Butt...	
6	2014-08-27 ...				Acces...	Acces...	Others	None	Cancel ...	
7	2014-08-27 ...				Acces...	Acces...	Others	None	Exit Butt...	
8	2014-08-27 ...				Acces...	Acces...	Others	None	Door Cl...	
9	2014-08-27 ...				Acces...	Acces...	Others	None	Opened...	
10	2014-08-26 ...				192.1...	192.16...	Others	None	Remote...	
11	2014-08-26 ...				192.1...	192.16...	Others	None	Remote...	
12	2014-08-26 ...				192.1...	192.16...	Others	None	Remote...	
13	2014-08-26 ...	4		698...	192.1...	192.16...	Card...	IN	Normal ...	
14	2014-08-26 ...	1	1		192.1...	192.16...	Card...	IN	Normal ...	
15	2014-08-26 ...	4			192.1...	192.16...	Card...	IN	Interlock	

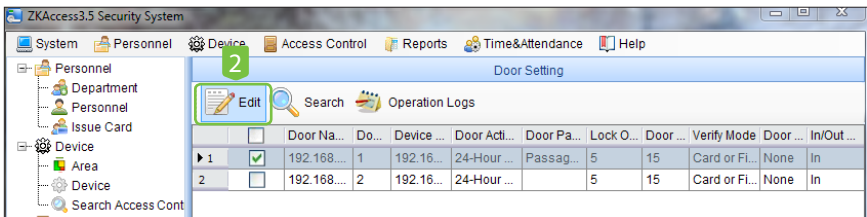
1. Click **Reports** to access transaction logs
2. Set filters to examine desired transactions, click **Search**
3. Click **Export** to export reports in XLS, PDF, or TXT file format

Passage Mode

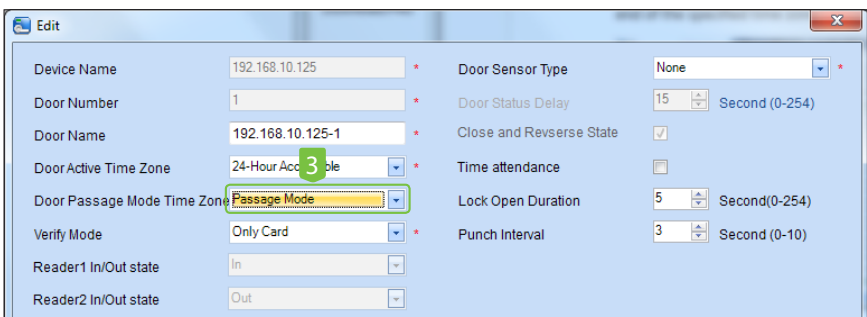
The Passage Mode feature will keep a door unlocked during a specified time zone. It will automatically unlock at the beginning of the time zone and will lock automatically at the end of the specified time zone.



1. Create a new Time Zone with the hours you want the door to be unlocked.



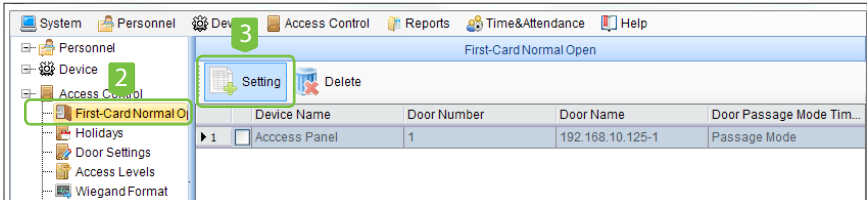
2. In Door Settings, Click Edit to change door settings.



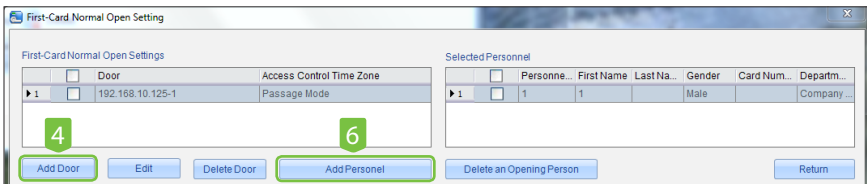
3. Click the dropdown menu titled "Door Passage Mode Time Zone" and select your new time zone

First-Card Normal Open

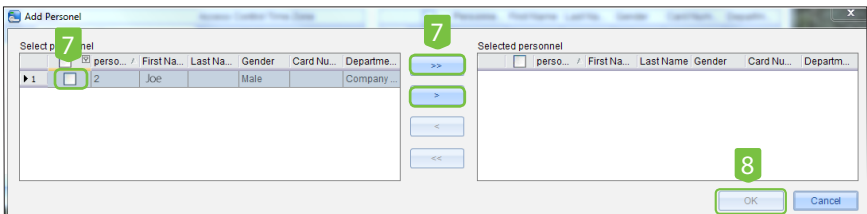
The First Card Normal Open feature will keep a door unlocked during a specified time zone when triggered by specified personnel. After a reader has been used by a specified personnel that day, the door will unlock automatically at the beginning of the time zone and lock again at the end of the specified time zone.



1. Create a new time zone with the hours you want the door to be unlocked.
2. Select the **First-Card Normal Open** Menu
3. Click **Setting**



4. Click **Add Door**
5. Choose the door you want to set to normal open and the time frame it will be unlocked. Click OK
6. Select the door and click **Add Personnel**



7. Select Personnel and use the arrow buttons to move them to the Selected personnel panel.
8. Click **OK**



A series of 20 horizontal lines spaced evenly down the page, serving as a template for text entry or notes.

