

# INSTALLATION GUIDE

NEMEH ProBio

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Version: 1.1

Date: September 2021

# Safety Precautions

Before installation, please read the following safety precautions for user safety and to prevent product damage.



**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.



**Do not** let liquid like water, drinks or chemical 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 purpose other than those specified.



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

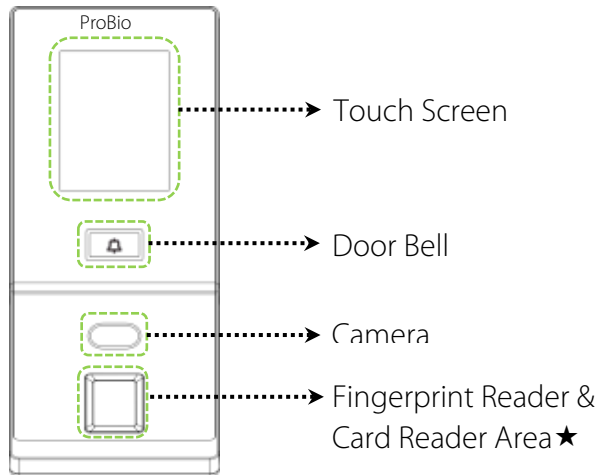
**Contact** your supplier in case of any problem!

# Device Overview

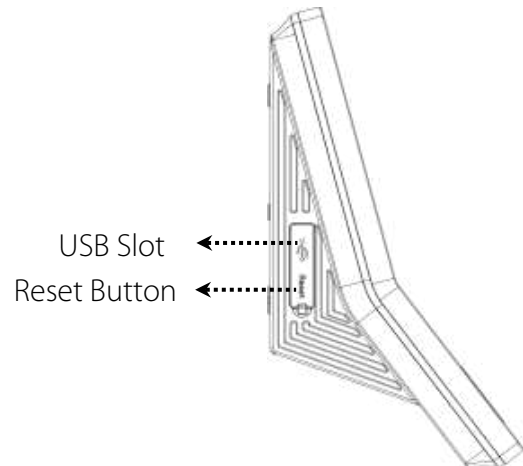
★ Not all products have a fingerprint or card function. The real product shall prevail.

## ❖ ProBio

Front View

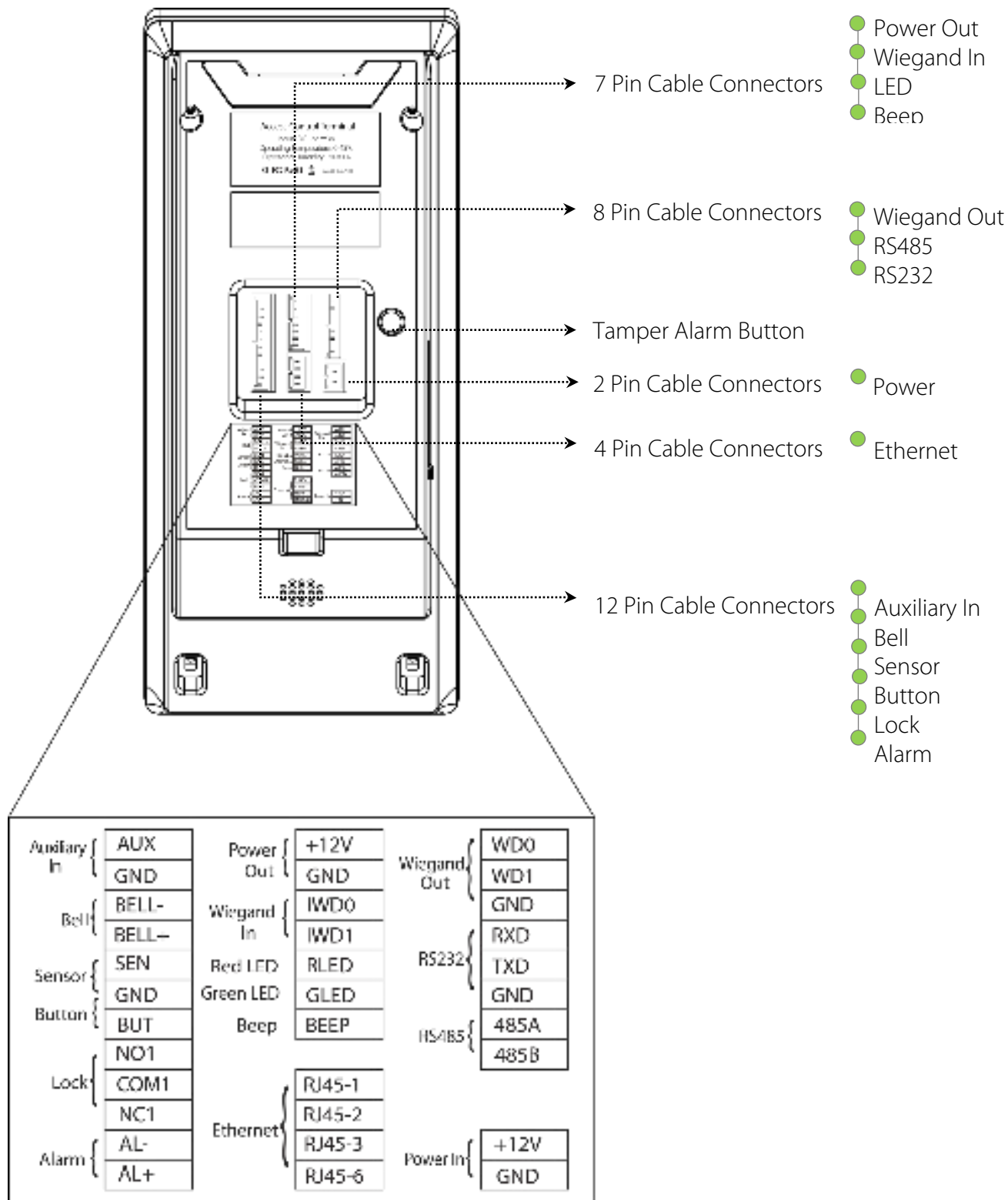


Left Side View



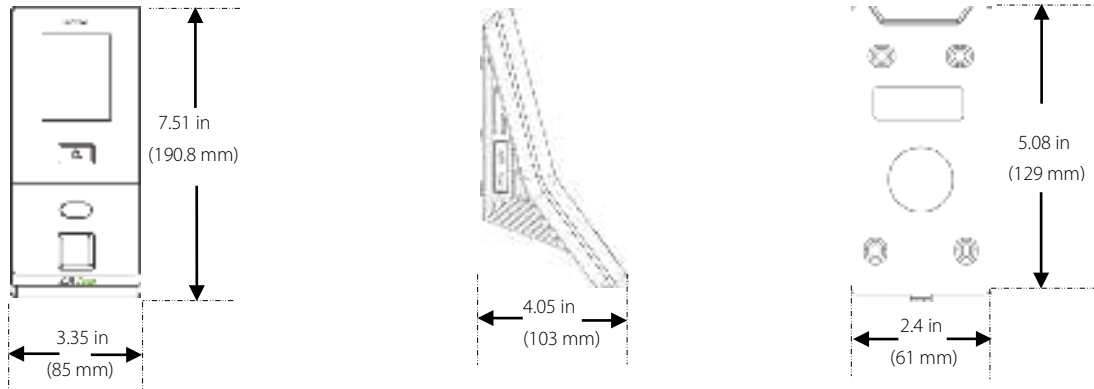
# Device Overview

Both ProBio devices have the same pin diagram which is provided below.

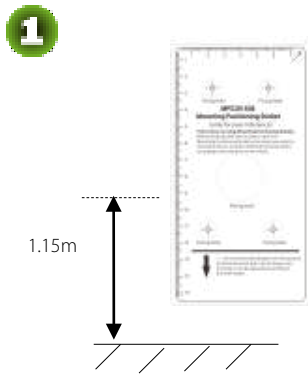


# Product Dimensions & Installation

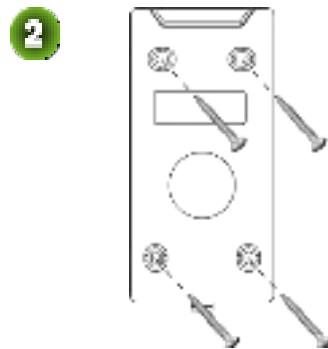
## ❖ Product Dimensions



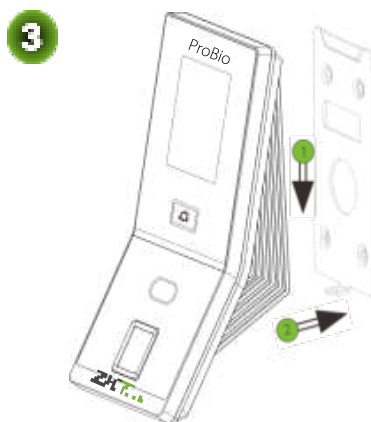
## ❖ Mounting the Device on the Wall



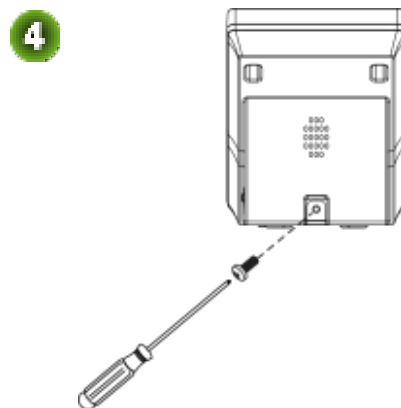
Place the mounting template sticker onto the wall, and drill holes according to the mounting paper.



Fix the back plate onto the wall using wall mounting screws.



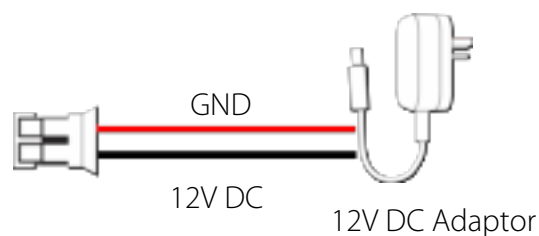
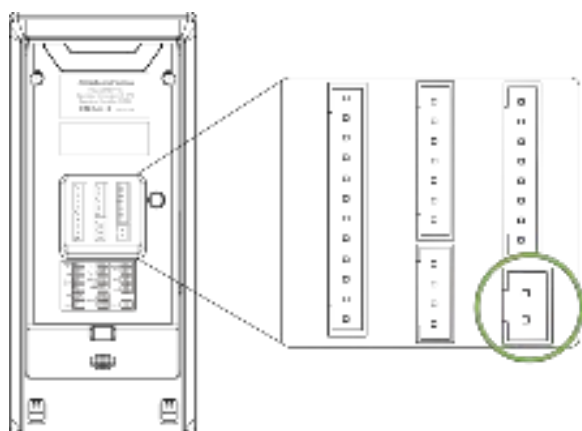
Insert the device into back plate.



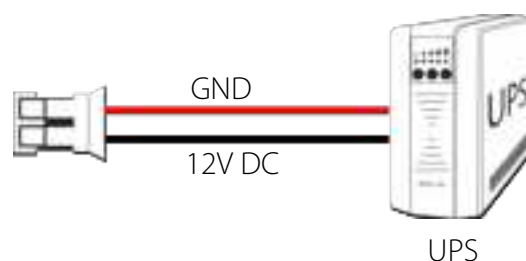
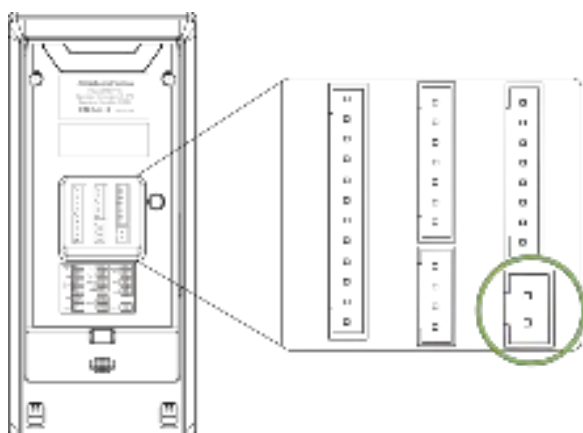
Use security screws to fasten the device to back plate.

# Power Connection

## ❖ Without UPS



## ❖ With UPS (Optional)

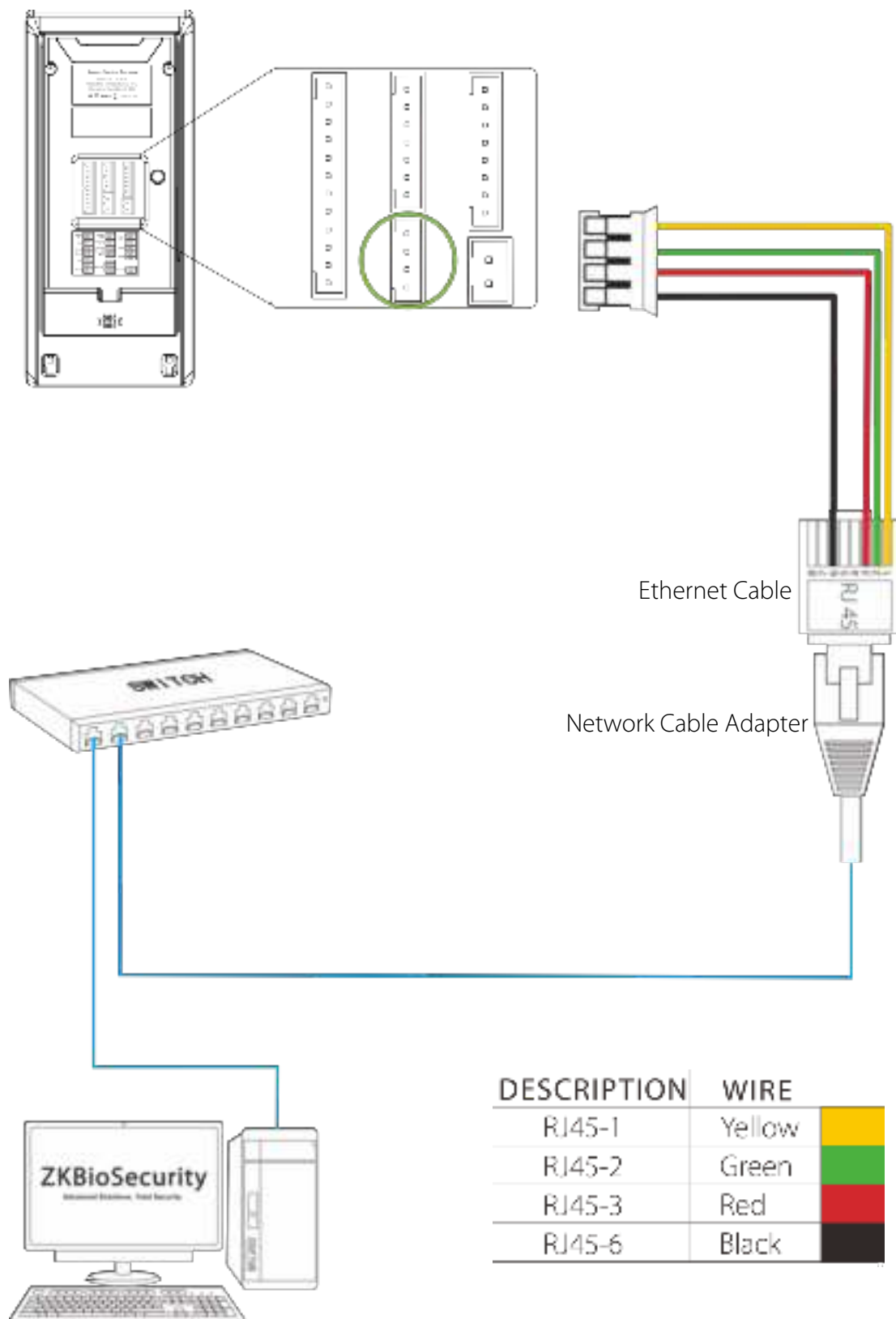


## ❖ Recommended Power Supply

- 12V±10%, at least 500mA (12V /3A is standard).
- To share the power with other devices, use a power supply with higher current ratings.

# Ethernet Connection

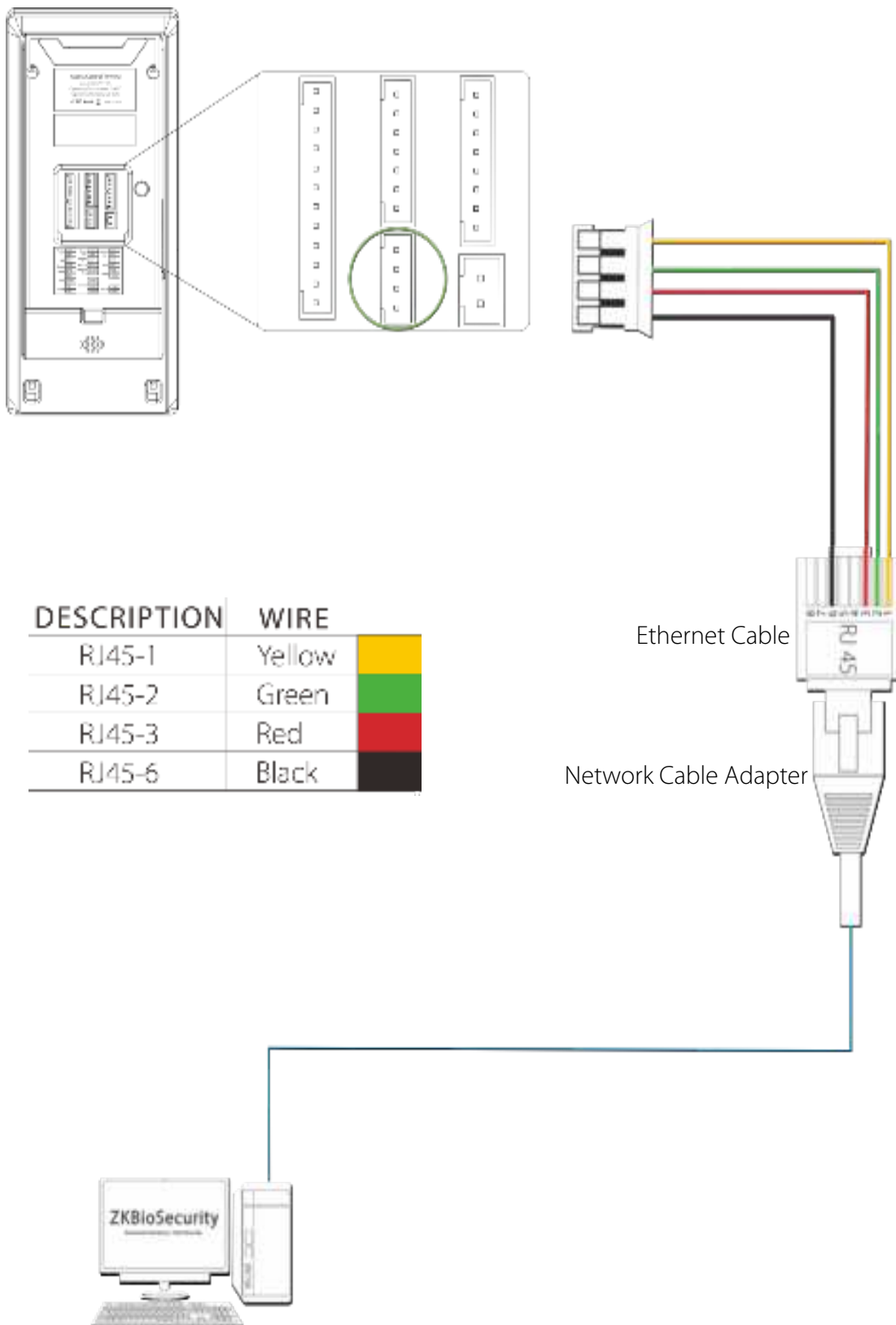
## ❖ LAN Connection



**Note:** The device can be directly connected to PC by using Ethernet cable.

# Direct Connection

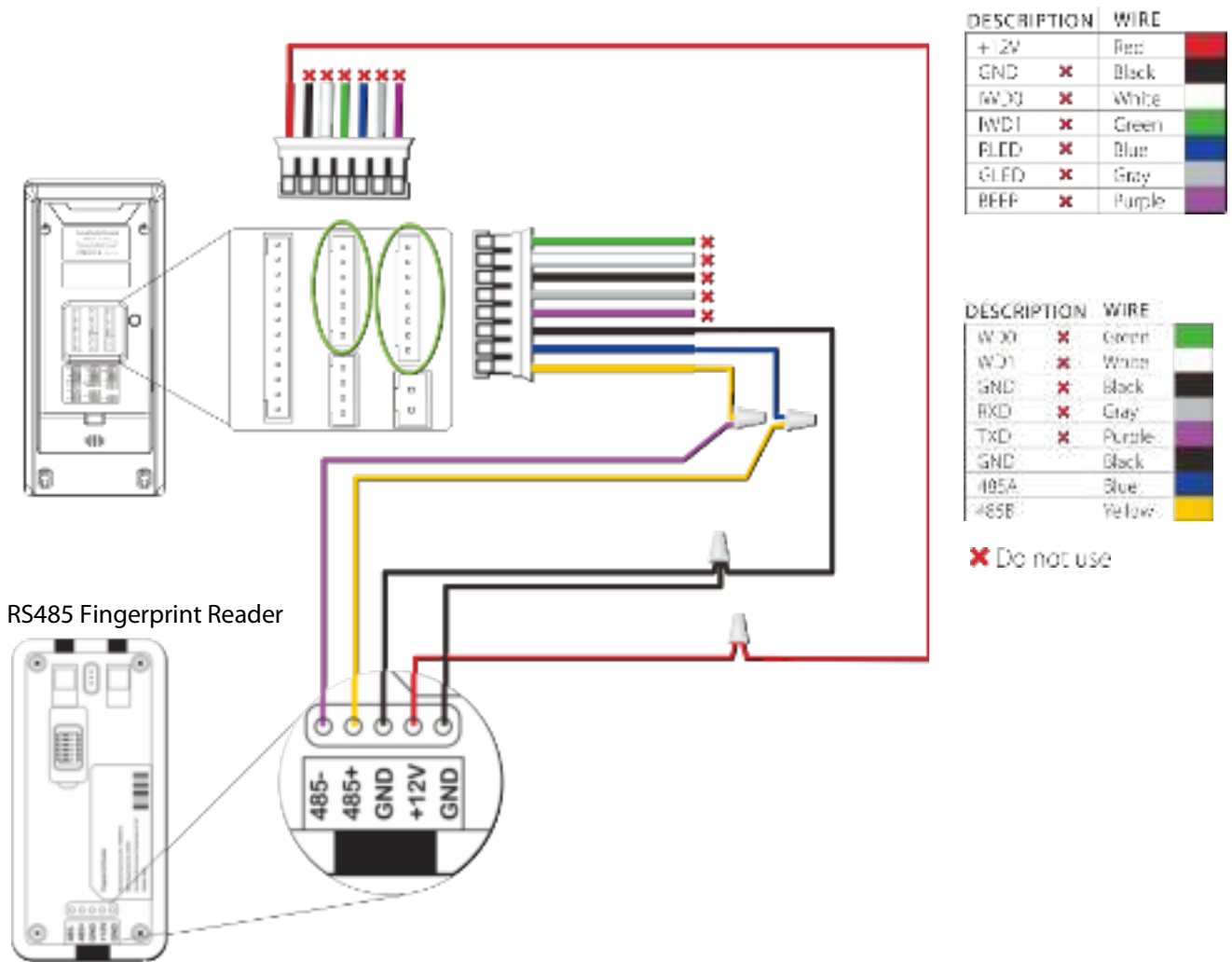
## ❖ Direct Connection





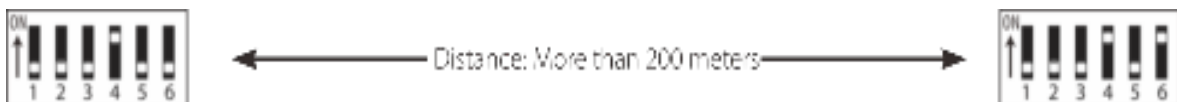
# RS485 Connection

## ❖ RS485 Fingerprint Reader Connection



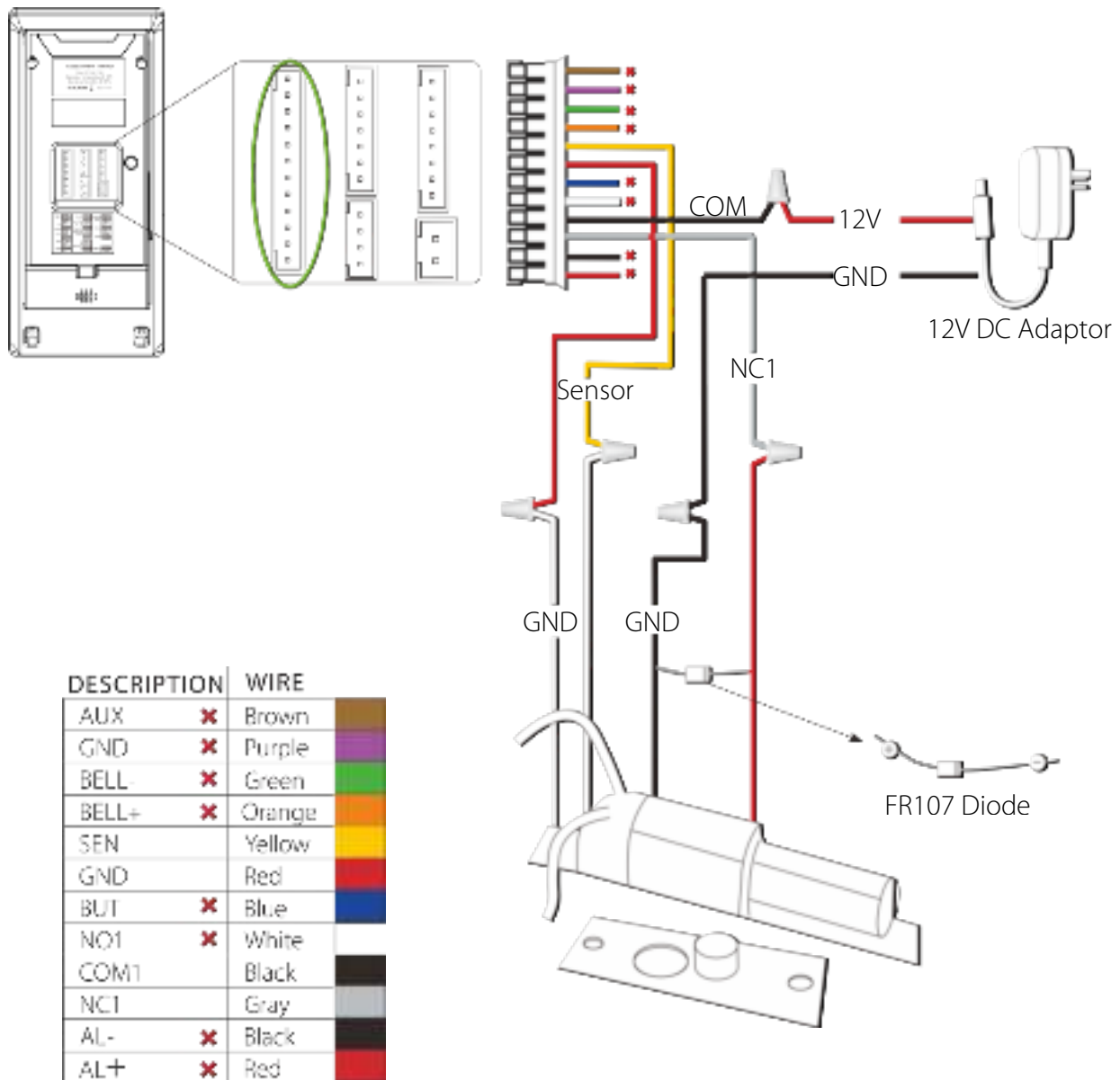
## ❖ DIP Settings

1. There are six DIP switches on the back of RS485 fingerprint reader. Switches from 1-4 are for RS485 address, switch 5 is reserved, and switch 6 is for reducing noise on long RS485 cable.
2. If RS485 fingerprint reader is powered from the terminal, the length of wire should be less than 100 meters or 330 ft.
3. If the cable length is more than 200 meters or 600 ft., the number 6 switch should be ON



# Lock Relay Connection

## ❖ Device Not Sharing Power with the Lock



### Normally Closed Lock

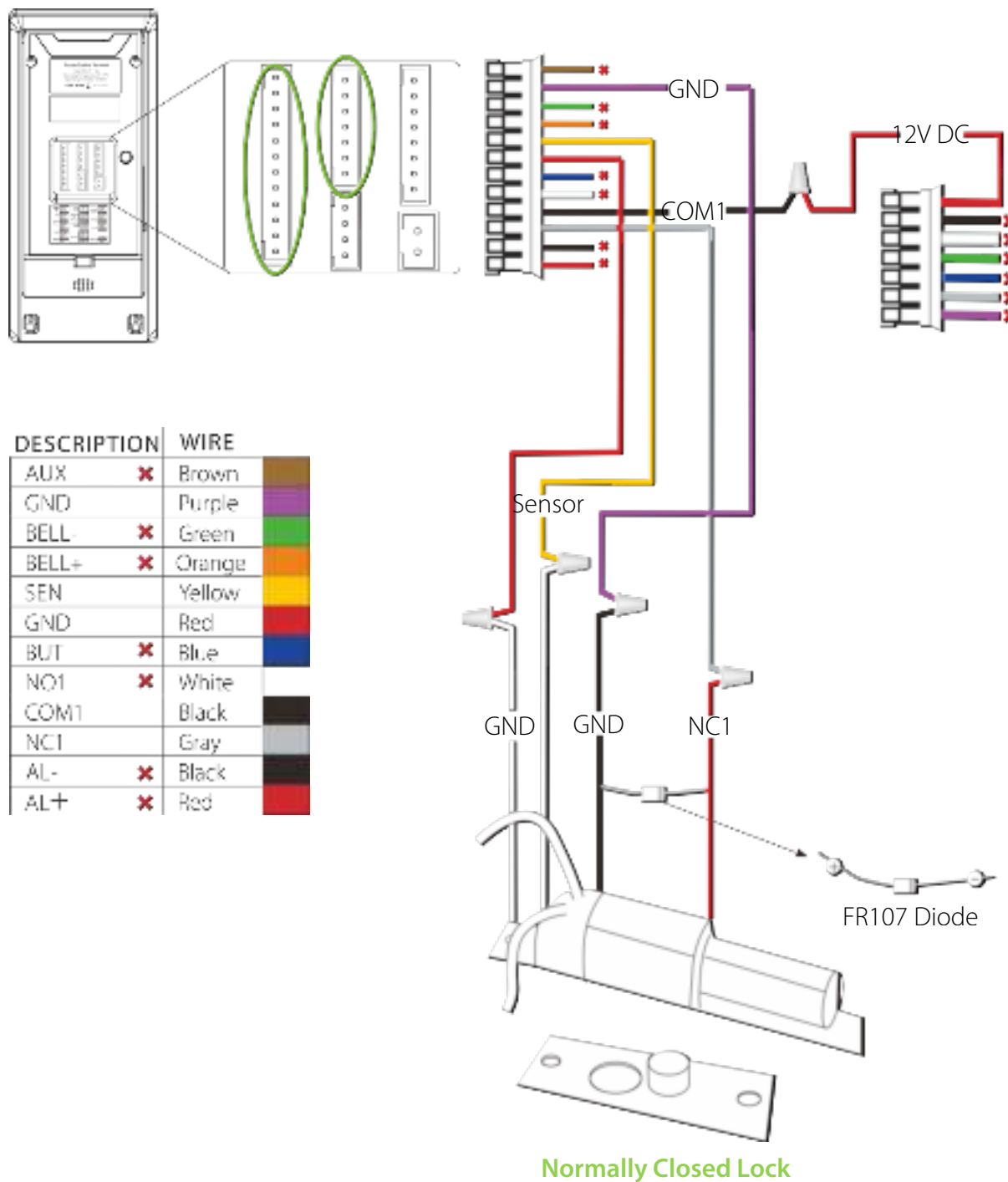
#### Notes:

1. The system supports **NO LOCK** and **NC LOCK**. For example the **NO LOCK** (normally opened at power ON) is connected with '**NO1**' and '**COM1**' terminals, and the **NC LOCK** (normally closed at power ON) is connected with '**NC1**' and '**COM1**' terminals.
2. When electrical lock is connected to the Access Control System, you must parallel one FR107 diode (equipped in the package) to prevent the self-inductance EMF from affecting the system.

⚠ Do not reverse the polarities.

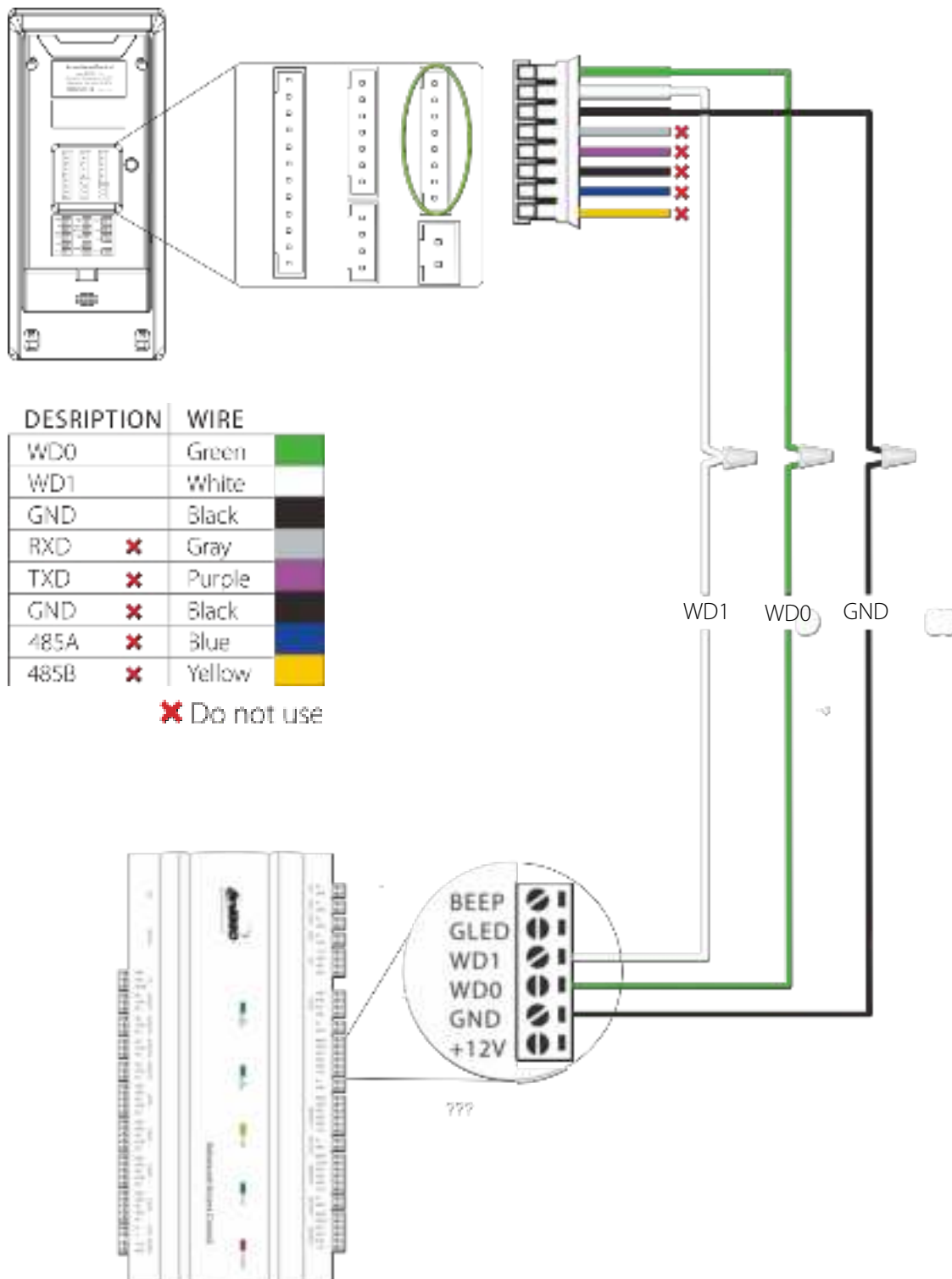
# Lock Relay Connection

## ❖ Device Sharing Power with the Lock



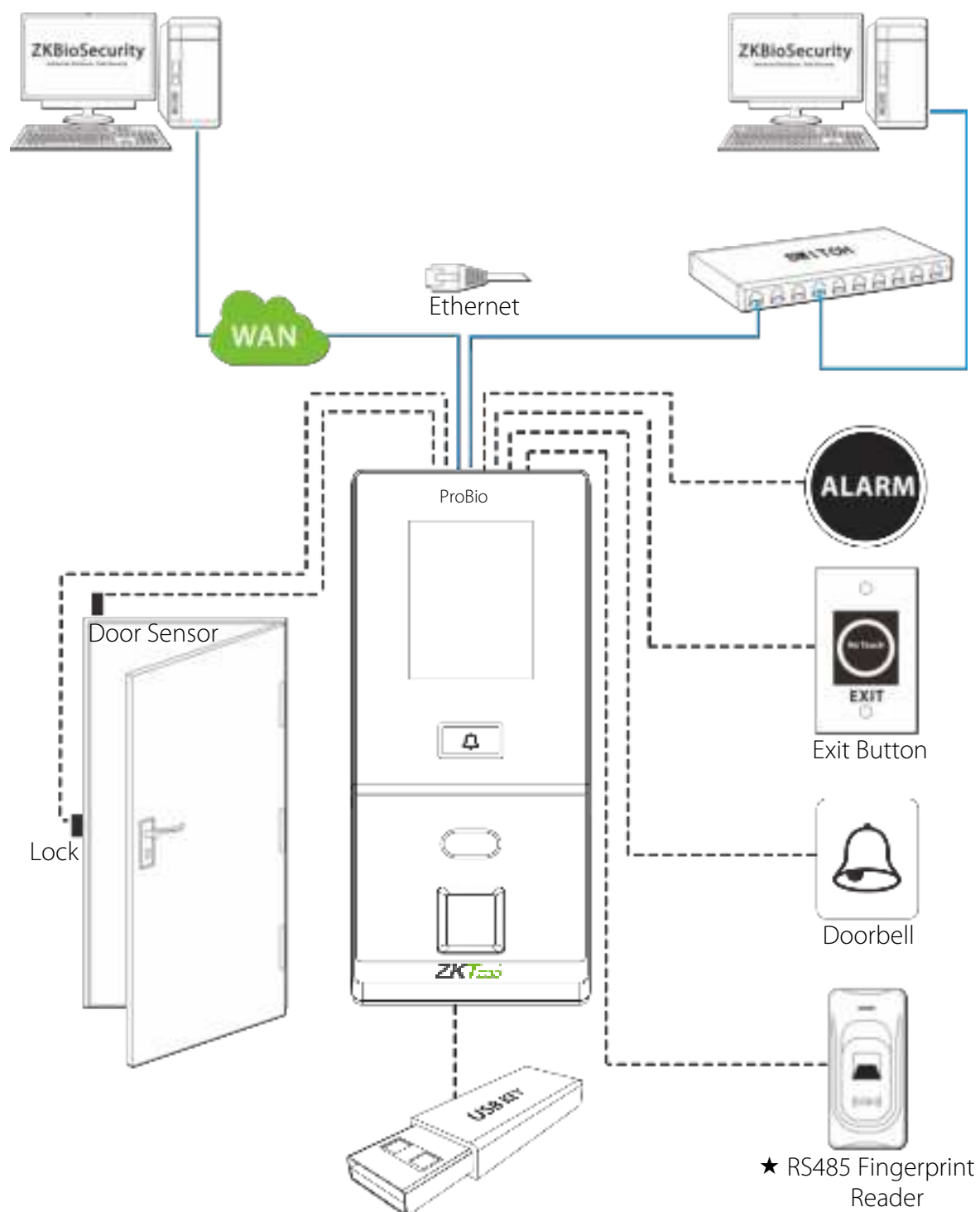
# Wiegand Output Connection

Wiegand output connection of ProBio devices is shown below:



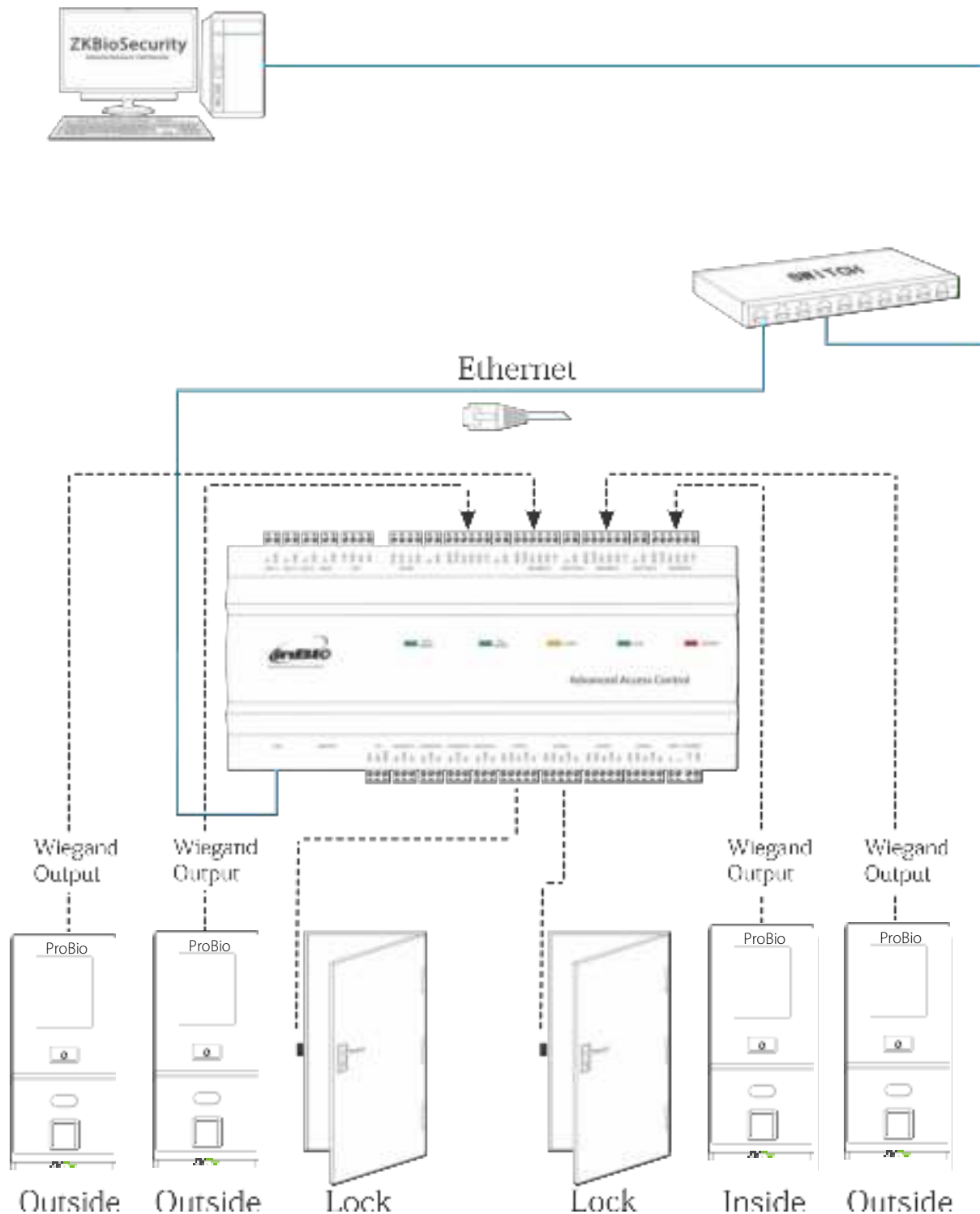
# Standalone Installation

The standalone installation of ProBio device is shown below:



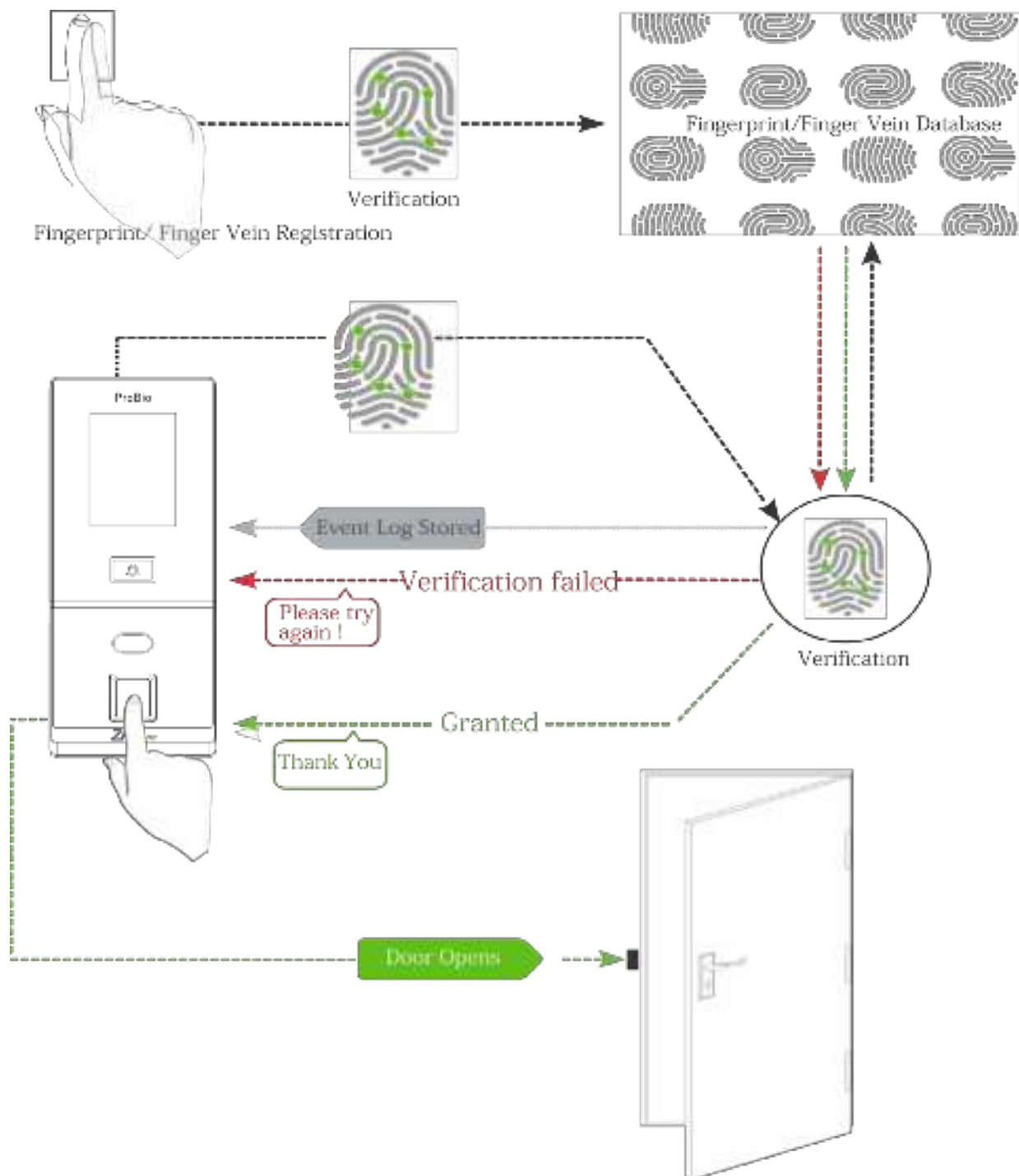
# Third-Party Controller

## ❖ Wiegand Output Connection



# How Does It Work?

The working principle of ProBio device is shown below:



# How to Place a Finger on the Sensor?

**Note:** fingerprint readers will give optimal results for fingerprint matching, if the following recommendations and suggestions are followed.

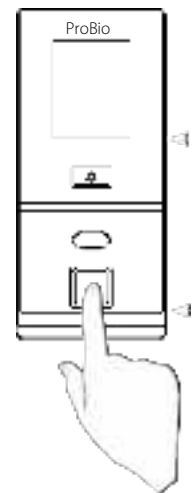
## ❖ Select a finger to enroll

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



## ❖ How to place a finger on a sensor

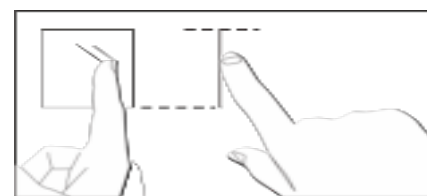
- Place a finger in a way that it completely covers the sensor area with maximum contact.
- Place the core of a finger at the center of the sensor. The core of a finger is the center where the spiral of ridges is dense (usually the finger core is at the opposite side of the lowest point of the nail).
- Place a finger in a way that the bottom end of a nail is located at the center of the sensor.



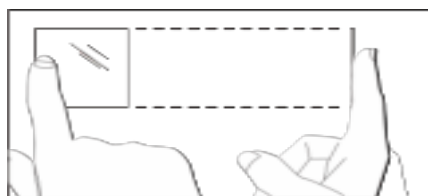
## ❖ DO NOT place the finger in the following positions



Upright



Skewed



Sideways



Partial



# Troubleshooting

## ❖ Tips for different fingerprint conditions

fingerprint products are designed to verify fingerprints with the highest security irrespective of the skin conditions of finger. However, in case a fingerprint cannot be read on the sensor, please refer to the followings tips:

- If a finger is stained with sweat or water, scan it after wiping the moisture off.
- If a finger is covered with dust or impurities, scan it after wiping them off.
- If a finger is too dry, try to exhale air onto your fingertip.

## ❖ Tips for fingerprint enrollment

In fingerprint recognition, the enrollment process is very important. When enrolling a fingerprint, please place the finger correctly.

- In case of the low acceptance ratio, the following actions are recommended:
  - Delete the enrolled fingerprint and re-enroll the finger.
  - Try another finger if it is not easy to enroll a finger due to scar.
- In case an enrolled fingerprint cannot be used due to injury or the hand being full, it is recommended to enroll more than two fingers per user.

# Troubleshooting

## 1. Fingerprint cannot be read or it takes too long?

- Check whether the 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 the finger is too dry, exhale air onto it and retry.

## 2. "Invalid time zone" is displayed after verification?

- Contact Administrator to check if the user has the privilege to gain access within that time zone.

## 3. Verification succeeds, but the user still cannot gain access?

- Check whether the user privilege is set correctly.
- Check whether the lock wiring is correct.
- Check whether anti-passback mode is in use. In anti-passback mode, only the person who has entered through that door can exit.

## 4. The Tamper Alarm rings?

To cancel the triggered alarm mode, carefully check whether the device and back plate are securely connected to each other, and reinstall the device properly if necessary.