

# User Manual and Installation Guide

FMD Pro 2.0

Date: April 2022

Doc Version: 1.1

English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



For further details, please visit our Company's website [www.zkteco.com](http://www.zkteco.com).

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If there is any issue related to the product, please contact us.

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## About the Company

ZKTeco is one of the world's largest manufacturers of RFID and Biometric (Fingerprint, Facial, and Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

## About the Manual

This manual introduces the operations of the **FMD Pro 2.0**.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

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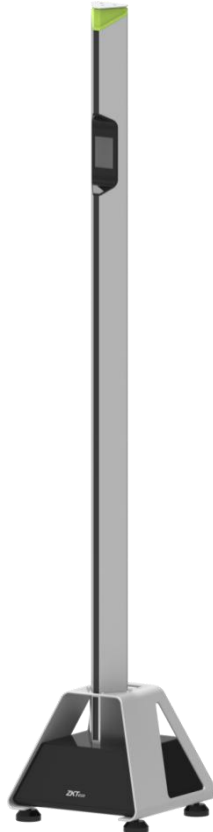
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# 1 Overview

## 1.1 Introduction

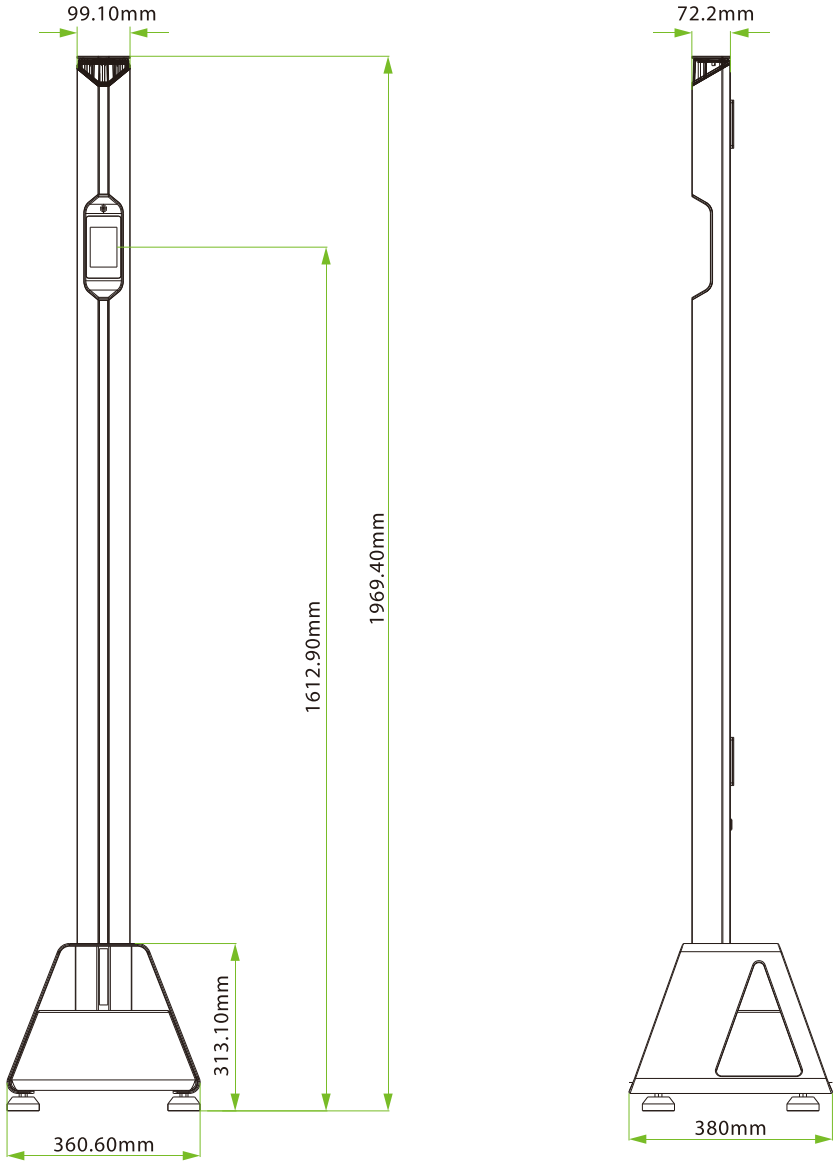
*FMD Pro 2.0* is a metal detection pole that offers a checkpoint specific solution to airports, bus terminals, conferences, customs, docks, and railway stations. FMD Pro 2.0 can detect concealed metal objects, smartphones, and smartwatches on a person's body. Its sensitive detection and huge screening capacity outperform the hand-held metal detectors.

## 1.2 Appearance





### 1.3 Dimensions



## 1.4 Specifications

Feature	Descriptions
<b>Maximum Detection Distance</b>	120cm
<b>Detection Radius</b>	Up to 80cm
<b>Throughput Rate</b>	50 people/minute
<b>Sensitivity Level</b>	100
<b>Alarm Zone</b>	3 zones
<b>Touch Screen Size</b>	3.5inches
<b>Alarm Volume</b>	1 to 10 Levels
<b>Alarm Ring</b>	6 Types (selectable)
<b>Input Voltage</b>	15V
<b>Embedded Rechargeable Battery</b>	8Hrs to be fully charged Supports 28Hrs of operation
<b>Battery Capacity</b>	10000mAh
<b>Input Voltage</b>	15V
<b>Operating Current</b>	260mA
<b>Operating Power</b>	3.9W
<b>Housing Material</b>	Aluminum Alloy
<b>Protection Level</b>	IPX5

<b>Operating Temperature</b>	-10°C to 50°C
<b>Storage Temperature</b>	-35°C to 70°C
<b>Operating Humidity</b>	0%RH to 95%RH (non-condensing)
<b>Dimension(L*W*H)</b>	360.6*380.0*1969.4(mm)
<b>Dimension with Packing(L*W*H)</b>	470*545*2380(mm)
<b>Net Weight</b>	16kg
<b>Weight with Packing</b>	41kg
<b>Certification(s)</b>	CE FCC

## 1.5 Performance and Technical Features

**Adjustable Sensitivity:** Each detection zone has 100 sensitivity levels (0 to 100). You can preset the metal size, by excluding coins, keys, jewelry, belt buckle, etc.

**Digital Pulse Technology:** Digital signal processing and filtering system in the detector has an excellent anti-interference ability.

**Harmless:** With no radiation emitted, the detector is safe for pregnant women, people who implanted pacemakers.

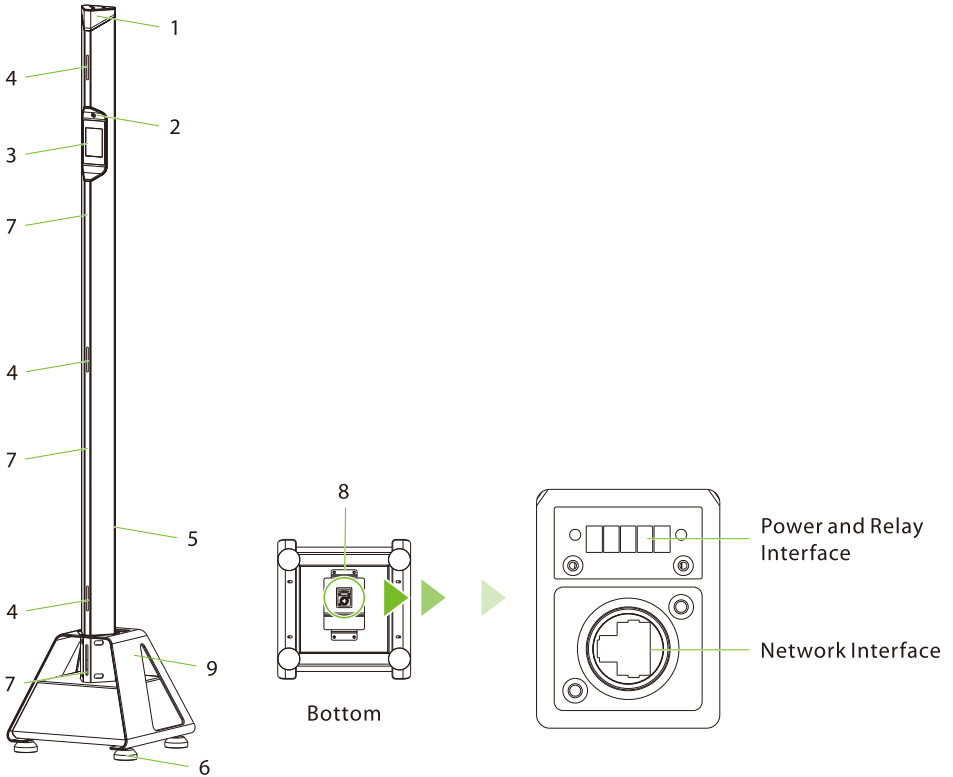
**Easy to install:** The detector has an integrated design which makes it easy to assemble and disassemble.

## 1.6 Detection Distance

Since different objects have different lengths, volumes, masses, densities, etc., the detection distance for each different object is also different. Please refer to the actual detection location for the detection distance.

Object	Distance
Keys	30cm
Smartwatch	60cm
Utility knife	70cm
Smartphone	80cm
Screwdriver	120cm

# 1.7 Components



1. Indicator	2. Speaker	3. 3.5-inch Touch Screen
4. Alarm Zone LED	5. Power Button	6. Foot Cup
7. Magnetic Sensor	8. Interface	9. Base

## 2 Installation Setup

### 2.1 Safety Precautions

- Install the detector on a stable and smooth area. Make sure that the detector is installed firmly on the selected area.
- It can be used for both indoor and outdoor operations.
- Wait for the detector to be calibrated for 2 seconds when it starts initially. Do not touch the detector during a security check to avoid false alarm.
- Do not disassemble the unit without the guidance of a professional technician.

### 2.2 Installation Site

The following section describes the requirements of the installation environment.

#### 2.2.1 Movable Metallic Items

The movable metallic objects must be kept away at 2 meters from the detector to avoid false alarms.

#### 2.2.2 Floor Vibration

The installation floor must be flat and fixed to avoid false alarm raised from the movement of the people walking through the detector.

#### 2.2.3 Electromagnetic Radiation and Interference

Since the detector uses Bilateral receiver technology, the detector must be installed away at a distance of at least 1 meter from the sources of electromagnetic radiation or electromagnetic interference. The parameters that define the distance are determined by the installation environment and the parameters vary for different installation environments.

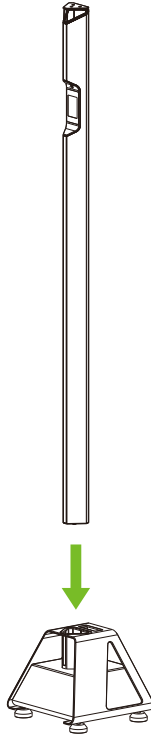
The sources of electromagnetic radiation and electromagnetic interference are given below:

Electrical Control Box, Radio frequency equipment, Interphone, High Power Motor, Power Transformer, AC Power Lines, Thyristor Control Circuit (High Power Switching Power Supply, Inverter Welder), Engine, Motor, etc.

## 2.2.4 Installation Steps

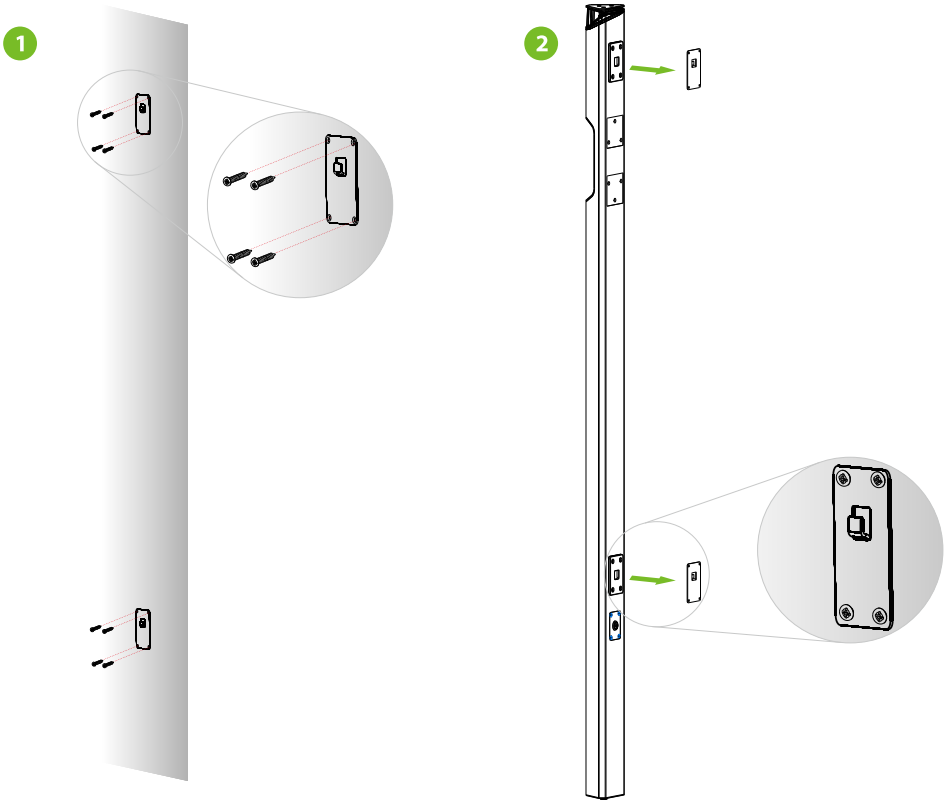
Make sure that the device is installed as per the following installation instructions. If you want to open the chassis, you should contact the agent for permission. Otherwise, you will bear any consequence resulting from your actions.

- Install on the base



Insert the pole into the hexagonal slot of the base.

● Install on the wall



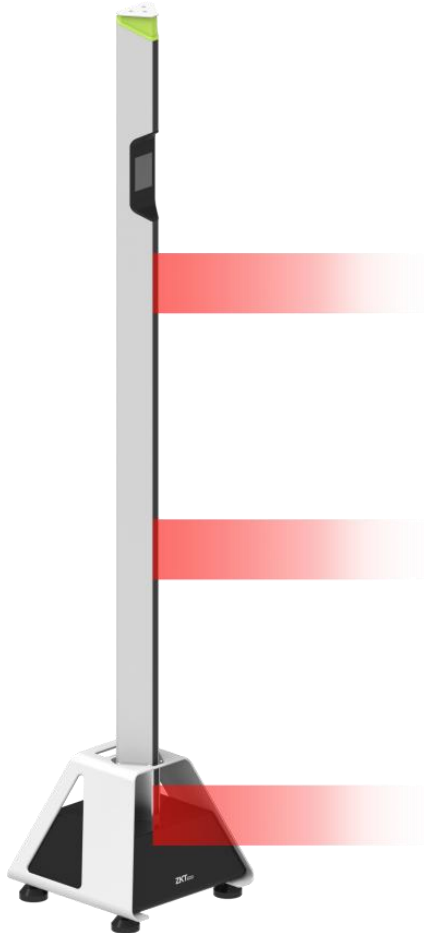
1. Fix the back plates on the wall according to the pole position using wall mounting screws;
2. Attach the pole to the back plates.

**Note:** The detector's sensor needs to point to the North Pole.



### 3 Detection Zones

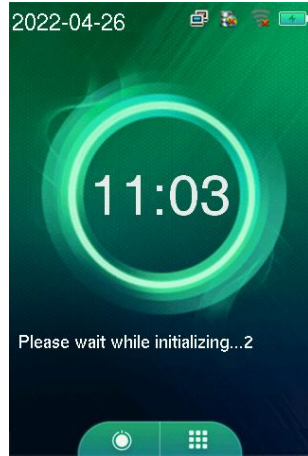
The FMD Pro 2.0 detector can detect a wide range of threat objects/weapons composed of magnetic.




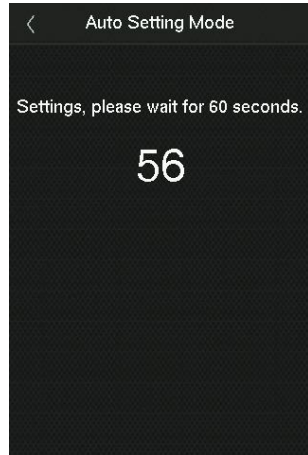
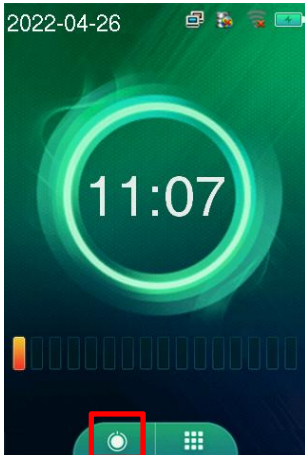
The three detection zones and accurate detection ensures that if the metal composition reaches or exceeds the preset value, the alarm LED of the specific zone where the material is hidden will glow and an alarm will be triggered.

## 4 Operational Procedure


Connect the power supply to the detector. Press the power button, and after 5 seconds of initialization, you can perform the following operations.



Press  on the home screen and input the [password](#) to set the sensitivity quickly.



## 4.1 Main Menu

Press  on the home screen to open the main menu, as shown below:



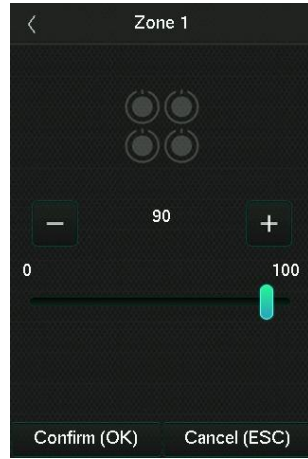
Item	Descriptions
<p><b>Sensitivity</b></p>	<p>There are three zones, to set the sensitivity of detection. The larger the value, the more sensitive the system would be, i.e. if a larger value is set, the probe zone is much easier and frequently triggered. The valid value ranges from 0 to 100.</p>
<p><b>Security Level</b></p>	<p>Sets the metal detection level. The level can be set to different security levels according to different application area. There are three modes: "<b>High</b>", "<b>Medium</b>", and "<b>Low</b>". It is recommended to use the default level of "<b>Medium</b>".</p>

<b>Application Area</b>	You can set the usage area as per your requirements such as airports, customs, docks, prisons, train stations and bus stations.
<b>Alarm Settings</b>	To set the volume, alarm count, tone of the alarm and relay delay.
<b>Autotest</b>	To automatically test whether each module functions properly, including the Zone, LED and Speaker.
<b>System Password</b>	To set the password for data security.
<b>Record Query</b>	When a person passes through the metal detection pole, the corresponding details will be saved in the device. This function allows the user to check the detection records.
<b>System Settings</b>	You may customize the sleep mode, system time, language settings and reset the device.
<b>System Info</b>	You can view the device name, serial number, MAC address, firmware and manufacturer information.
<b>COMM.</b>	To set the relevant parameters of Network, PC Connection, Wireless Network and Cloud Server.

## 4.2 Adjusting Sensitivity

There are three zones, to set the sensitivity of detection. The larger the value, the more sensitive the system would be.

Click **Sensitivity** on the main menu.

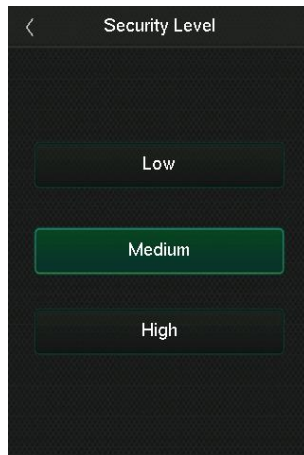



Select the zone to be adjusted, adjust the sensitivity of the zone in the zone interface, and click **[Confirm (OK)]** to save.

### 4.3 Security Level Setting

Here, the metal detection level can be set to different security levels according to the real-time application area.

Click **Security Level** on the main menu to set the metal detection level.

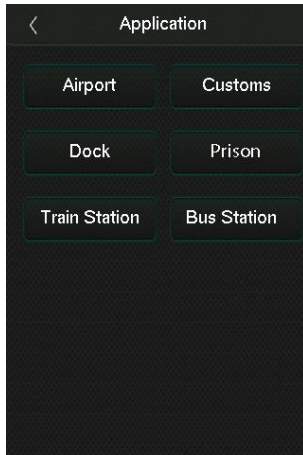



Select the security level according to your needs, and the settings will take effect automatically. Press the  icon in the top left corner of the interface to exit the security level interface.

## 4.4 Application Area Setting

The settings can be selected for security inspections at access points at airports, customs, docks, prisons, train stations, and bus stations.

Click **Application Area** on the main menu.

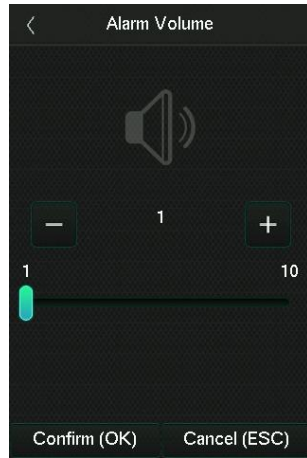
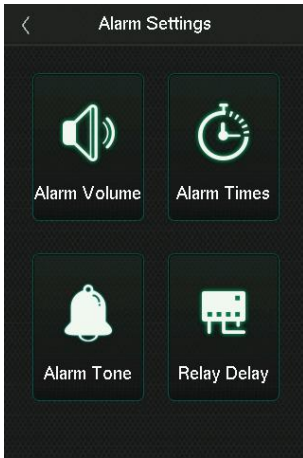


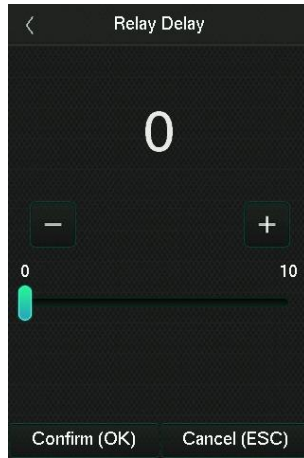
Select the application area according to the requirements and the settings will be updated automatically. Press the  icon in the top left corner of the interface to exit the domain interface.

## 4.5 Alarm Settings

The Alarm Settings are used to set the volume, alarm count, tone of the alarm and relay delay.

Click **Alarm Settings** on the main menu.





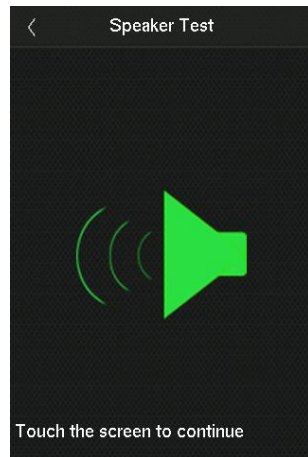
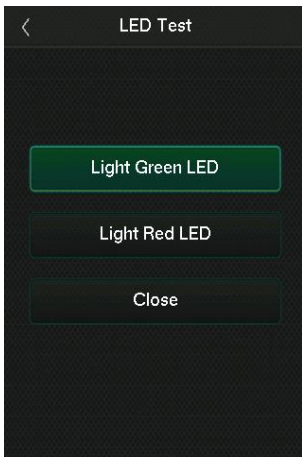
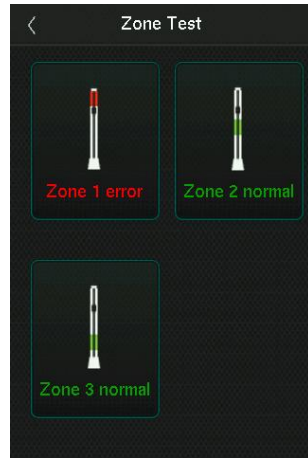
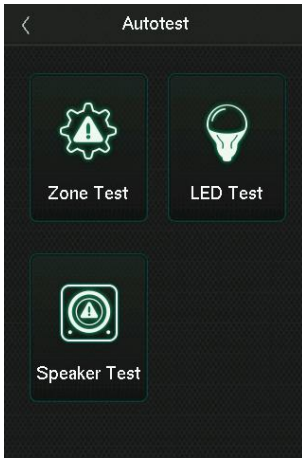
Menu	Descriptions
<b>Alarm Volume</b>	You can adjust the volume of the device; the valid rang is: 0 to 10.
<b>Alarm Times</b>	Set the times of alarms when the metal composition reaches or exceeds the preset value.(The default value is 2)
<b>Alarm Tone</b>	Select an alarm tone from the available options.
<b>Relay Delay</b>	Set the alarm delay time, the larger the number, the slower the alarm; the valid rang is: 0 to 10.

## 4.6 Autotest

The Autotest option is used to automatically test whether each module functions properly, including Zone, LED, and Speaker.

Click **Autotest** on the main menu.





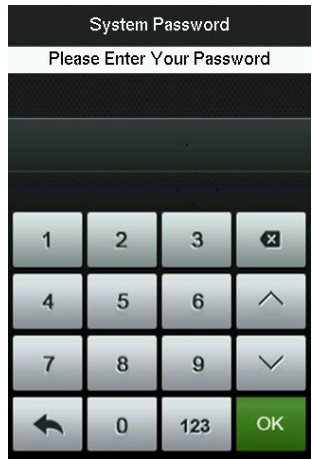
Menu	Descriptions
<b>Zone Test</b>	Check the detector by placing metal in the zone to check whether the detector is sensitive. When a metal is placed in the zone, the detector will alarm.
<b>LED Test</b>	Automatically tests whether the Red and Green LED indicators light up.

<b>Speaker Test</b>	To automatically test whether the audio files stored in the device are complete and the voice quality is good.
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## 4.7 System Password

The System Password feature is used to improve the security of data.

Click **System Password** on the main menu.

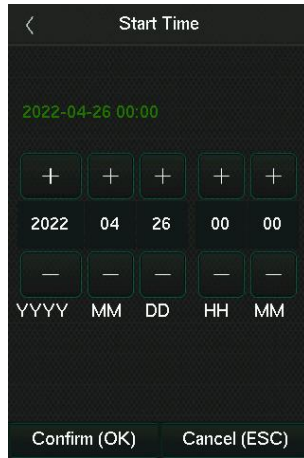


Enter a password and re-enter it. Click **OK**. If the two entered passwords are different, the prompt "Password not match" will appear. The default password is 0, which can be changed, the password may contain 1 to 6 digits.

## 4.8 Record Query

When a person passes through the detector, the details will be saved in the device. This function allows the user to search for a detection record.

Click **Record Query** on the main menu.

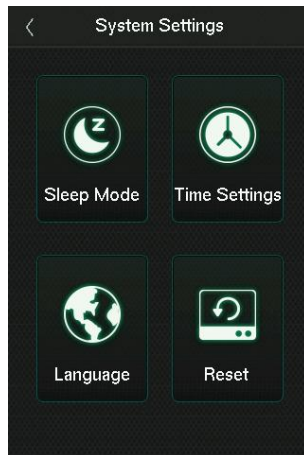


Select the time range you want to search records; press **OK**, the system will search and display the respective record.

## 4.9 System Settings

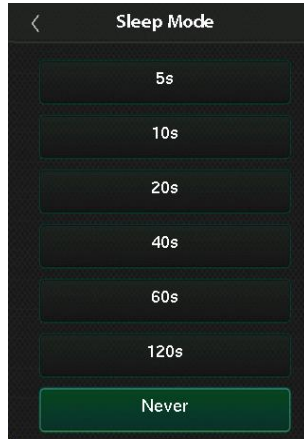
You may customize the screen sleep, time, language and reset the device.

Click **System Settings** on the main menu.



### 4.9.1 Sleep Mode

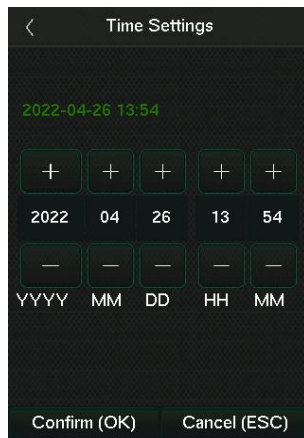
Click **Sleep Mode** on the System Settings interface.



If you have activated the sleep mode, when there is no operation, the device will enter the standby mode. Press any key or finger to resume the normal working mode. You can disable this function or set the value to 5s, 10s, 20s, 40s, 60s or 120s.

### 4.9.2 Time Settings

Click **Time Settings** on the System Settings interface.



You can manually set date and time and click **Confirm** to save.

### 4.9.3 Language

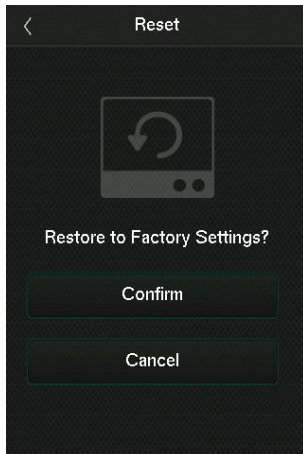
Click **Language** on the System Settings interface to select the language of the device.



To select the language of the device.

### 4.9.4 Reset

Click **Reset** on the System Settings interface.



This option restores the device settings, such as system settings, to factory settings (does not clear the data).

Click **OK** to reset.

## 4.10 System Info

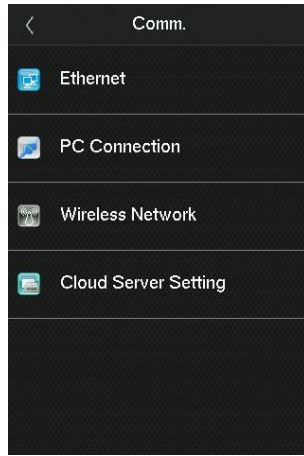
Click **System Info** on the main menu.



Here, you can view the device name, serial number, MAC address, firmware, manufacturer and MCU version information.

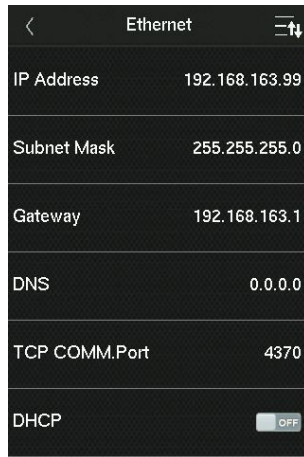
## 4.11 Communication

Click **COMM.** on the main menu to set the relevant parameters of Network, PC Connection, Wireless Network and Cloud Server.



### 4.11.1 Network Settings

Click **Ethernet** on the COMM. interface.

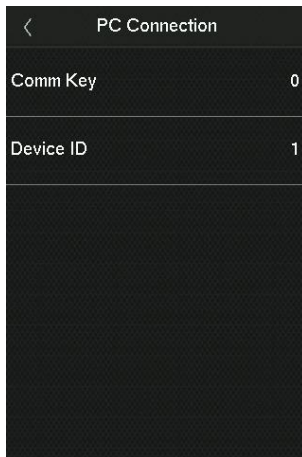


Menu	Descriptions
<b>IP Address</b>	The default IP address is 192.168.1.201. It can be modified according to the network availability.
<b>Subnet Mask</b>	The default Subnet Mask is 255.255.255.0. It can be modified according to the network availability.

<b>Gateway</b>	The default Gateway address is 0.0.0.0. It can be modified according to the network availability.
<b>DNS</b>	The default DNS address is 0.0.0.0. It can be modified according to the network availability.
<b>TCP COMM. Port</b>	The default TCP COMM Port value is 4370. It can be modified according to the network availability.
<b>DHCP</b>	Dynamic Host Configuration Protocol dynamically allocates IP addresses for clients via server.
<b>Display in Status Bar</b>	Toggle to set whether to display the network icon on the status bar.

### 4.11.2 PC Connection

Click **PC Connection** on the COMM. interface.



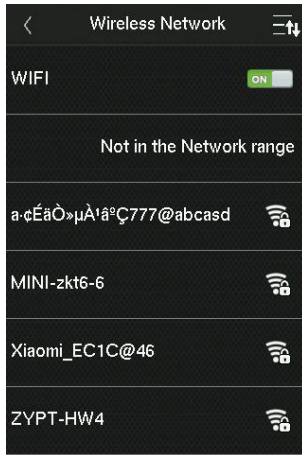
Menu	Descriptions
<b>Comm Key</b>	The default password is 0 and can be changed. The Comm Key can contain 1-6 digits.



<p><b>Device ID</b></p>	<p>It is the identification number of the device, which ranges between 1 and 254.</p> <p>If the communication method is RS232/RS485, you need to input this device ID in the software communication interface.</p>
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### 4.11.3 Wireless Network

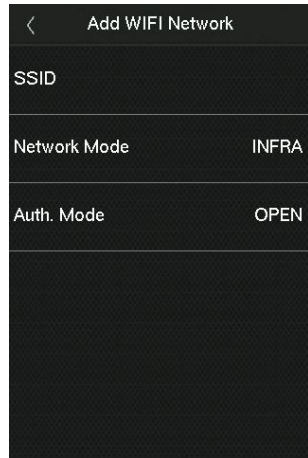
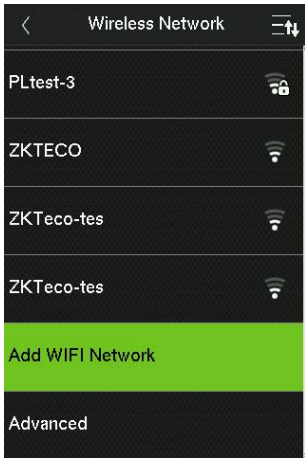
Click **Wireless Network** on the COMM. interface.



Tap on the required Wi-Fi name from the available list and input the correct password in the password interface, and then tap **Connect to WIFI (OK)**.

#### **Adding WIFI Network Manually**

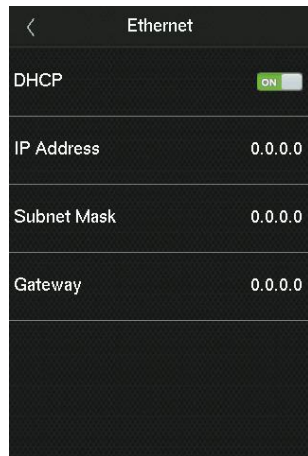
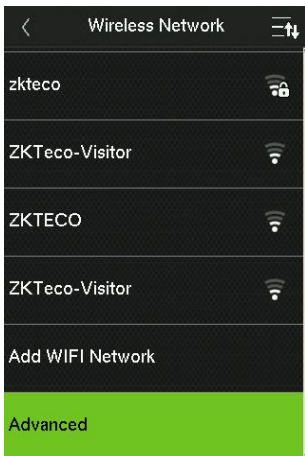
The WIFI can also be added manually if the required WIFI does not show on the list.



On this interface, enter the WIFI network parameters. (The added network must exist.)

### Advanced Setting

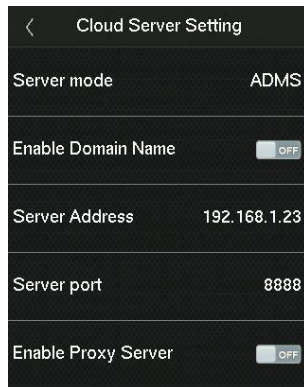
On the Wireless Network interface, tap on Advanced to set the relevant parameters as required.



Menu	Descriptions
<b>DHCP</b>	Dynamic Host Configuration Protocol (DHCP) dynamically allocates IP addresses to network clients. If the DHCP is enabled, then the IP cannot be set manually.
<b>IP Address</b>	The IP address for the WIFI network, the default is 0.0.0.0. It can be modified according to the network availability.
<b>Subnet Mask</b>	The default Subnet Mask of the WIFI network is 255.255.255.0. It can be modified according to the network availability.
<b>Gateway</b>	The Default Gateway address is 0.0.0.0. It can be modified according to the network availability.

### 4.11.4 Cloud Server Setting

Click **Cloud Server Setting** on the COMM. interface.



Function Name		Description
Enable Domain Name	Server Address	Once this mode is turned ON, the domain name mode "http://..." will be used, such as http://www.XYZ.com, while "XYZ" denotes the domain name.
Disable Domain Name	Server Address	The IP address of the ADMS server.
	Server Port	Port used by the ADMS server.
Enable Proxy Server		The IP address and the port number of the proxy server is set manually when the proxy is enabled.

# Packing List

The package consists of the following items:

S.No	Component	Quantity
1	Pole	1
2	Base	1
3	Plates	2
4	Screw	8
5	Plastic Plug	8
6	User Manual	1
7	Adapter	1
8	Power Cord	1
9	Caster Wheel	4

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