TURNSTILES.us

User Manual and Installation Guide

FMD Pro 2.0

Date: August 2023

Doc Version: 1.4

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.TURNSTILES.us.

Table of Contents

1 OVERVIEW 7

1.1 INTRODUCTION 7

1.2 APPEARANCE 7

1.3 DIMENSIONS 8

1.4 SPECIFICATIONS 9

1.5 PERFORMANCE AND TECHNICAL FEATURES 10

1.6 DETECTION DISTANCE 11

1.7 COMPONENTS 12

2 INSTALLATION SETUP 13

2.1 SAFETY PRECAUTIONS 13

2.2 INSTALLATION SITE 13

2.2.1 Movable Metallic Items 13

2.2.2 Floor Vibration 13

2.2.3 Electromagnetic Radiation and Interference 13

2.2.4 Installation Steps 14

3 DETECTION ZONES 17

4 OPERATIONAL PROCEDURE 18

4.1 MAIN MENU 19

4.2 ADJUSTING SENSITIVITY 21

4.3 SECURITY LEVEL SETTING 21

4.4 APPLICATION AREA SETTING 22

4.5 ALARM SETTINGS 23

4.6 AUTOTEST 25

4.7 SYSTEM PASSWORD 26

4.8 RECORD QUERY 27

4.9 SYSTEM SETTINGS 27

4.9.1 SLEEP MODE 28

4.9.2 TIME SETTINGS 29

4.9.3 LANGUAGE 29

4.9.4 RESET 30

4.10 SYSTEM INFO 30

4.11 COMMUNICATION (IF APPLICABLE) 31

4.11.1 NETWORK SETTINGS 31

4.11.2 PC CONNECTION 33

4.11.3 WIRELESS NETWORK 34

4.11.4 CLOUD SERVER SETTING 36

5 TESTING DATA SHEET 37

6 MAINTENANCE 39

7 FAQ 40

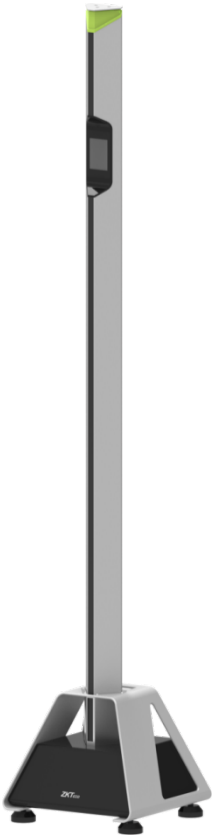
8 PACKING LIST 41

1 Overview

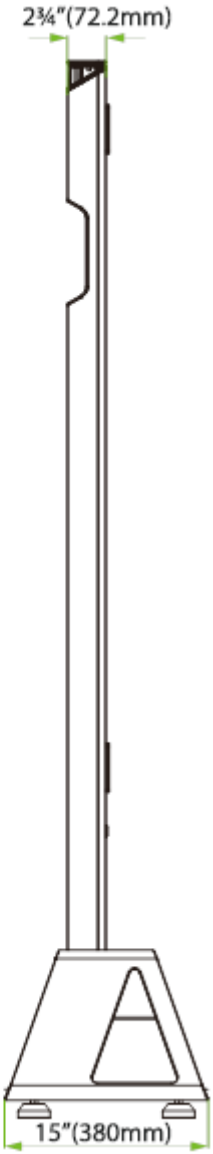
1.1 Introduction

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
Maximum Detection Distance	47”(120cm)
Detection Radius	Up to 31”(80cm)
Throughput Rate	35 people/minute
Sensitivity Level	100
Alarm Zone	3 zones
Touch Screen Size	3.5inches
Alarm Volume	1 to 10 Levels
Alarm Ring	6 Types (selectable)
Embedded Rechargeable Battery	8Hrs to be fully charged Supports 28Hrs of operation
Battery Capacity	10000mAh
Input Voltage	15V
Operating Current	260mA
Operating Power	3.9W
Housing Material	Aluminum Alloy
Protection Level	IPX5
Operating Temperature	14°F(-10°C) to 122°F(50°C)

Storage Temperature	-31°F(-35°C) to 158°F(70°C)
Operating Humidity	0%RH to 95%RH (non-condensing)
Dimension(L*W*H)	L-14¼"(360.6mm)*W-15"(380mm)* H- 77½"(1969.4mm)
Dimension with Packing(L*W*H)	L-18½"(470mm)*W-21½"(545mm)* H - 93¾"(2380mm)
Net Weight	35½lbs (16kg)
Weight with Packing	90½lbs (41kg)
Certification(s)	CE FCC
Communication	TCP/IP, Wi-Fi

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.

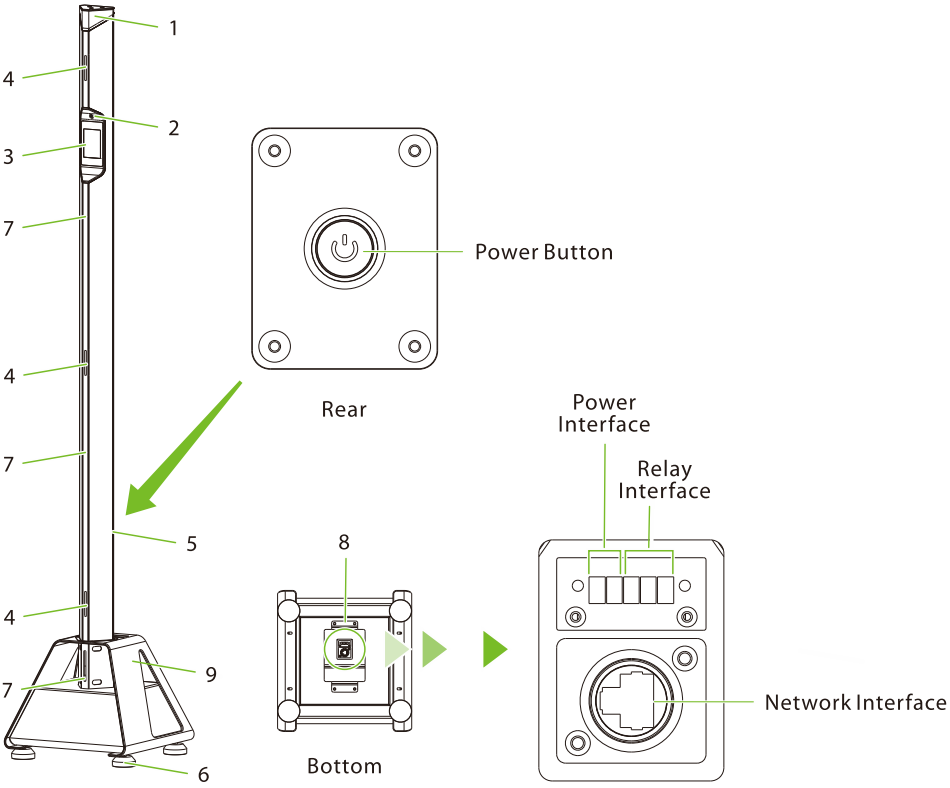
Harmless: With no radiation emitted, the detector is safe for pregnant women, people who implanted pacemakers.

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. For example keys, smart watches, utility knife, smart phone and tools. We have tested common threat items in a single lane application (two poles in the base at approximately 47" (119cm). See testing data sheet on pages 37 and 38.

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

1. Install the detector on a stable and smooth area. Make sure that the detector is installed firmly on the selected area.
2. It can be used for both indoor and outdoor operations.
3. 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.
4. 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.

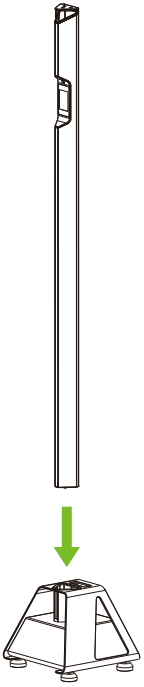
The sources of electromagnetic radiation and electromagnetic interference are given below:

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

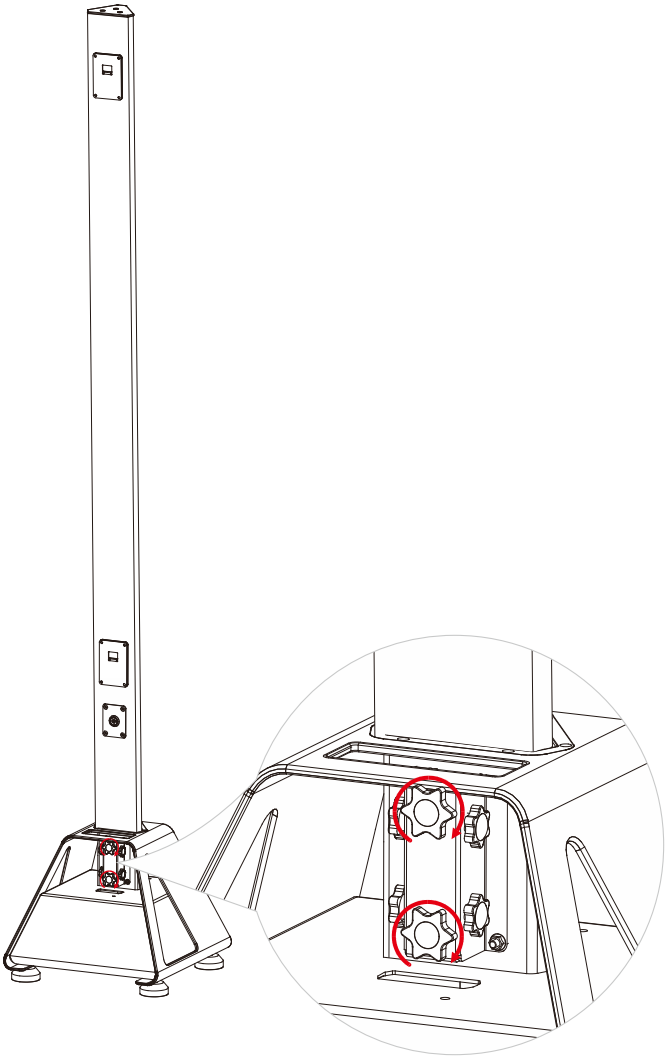
Make sure that the device is installed as per the following installation instructions. If you want to open the chassis, you should contact the agent for permission. Otherwise, you will bear any consequence resulting from your actions.

- Install on the base



1. Insert the pole into the hexagonal slot of the base.
2. Tighten set screw to secure the pole properly to the base.

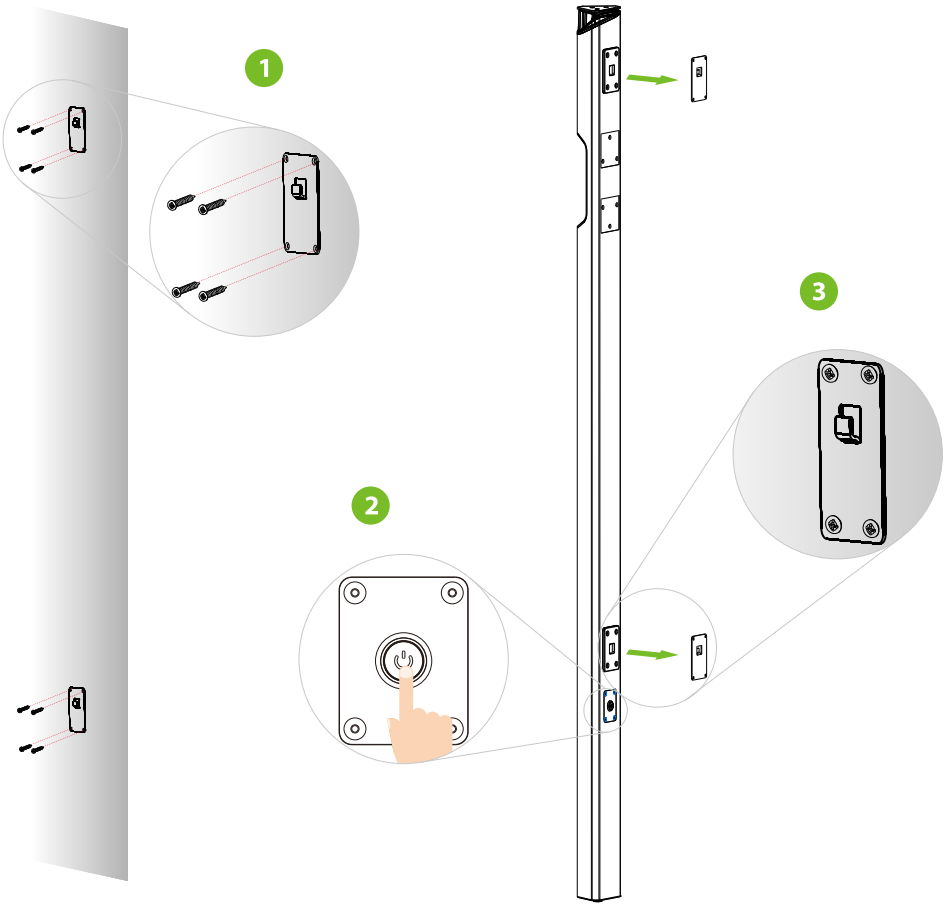
Caution: Do not over tighten as you may damage the metal detector.



3. After insertion into the pole, adjust the height of the foot cups by rotating the nuts on each foot cup as necessary to ensure that all four foot cups remain at the same level.

4. Press the power button to start the device.

- Install on the wall

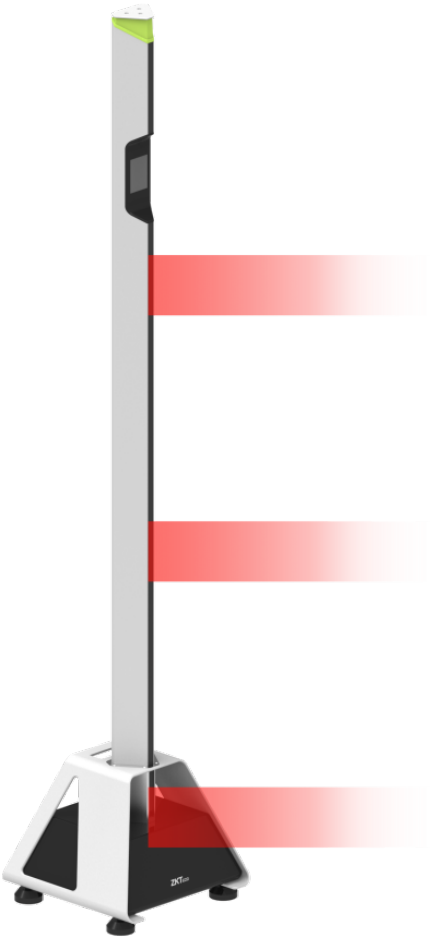


1. Fix the back plates on the wall according to the pole position using wall mounting screws.
2. You need to press the power button to start the device and then attach the pole to the back plates.

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

3 Detection Zones

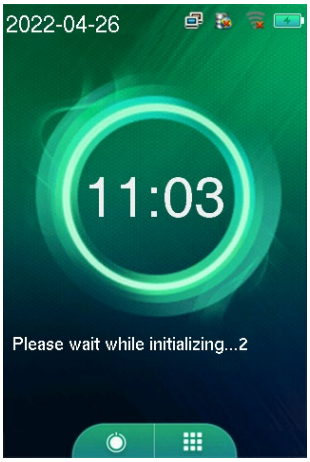
The FMD Pro 2.0 detector can detect a wide range of threat objects/weapons composed of magnetic.



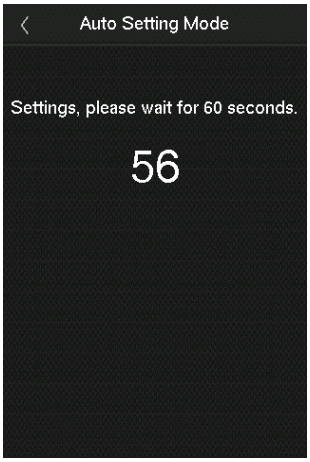
The three detection zones and accurate detection ensures that if the metal composition reaches or exceeds the preset value, the alarm LED of the specific zone where the material is hidden will glow and an alarm will be triggered.

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.

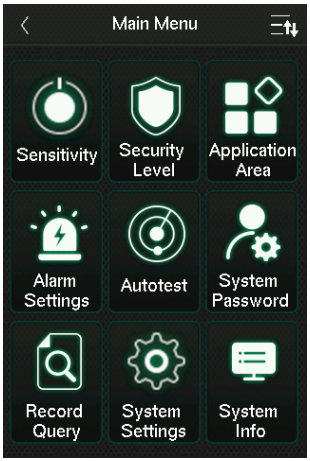


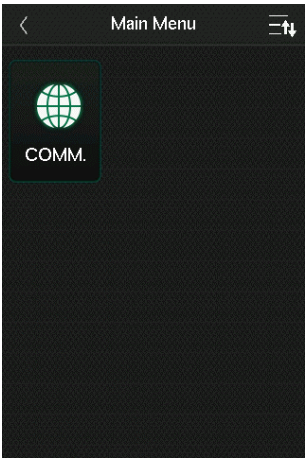
Press on the home screen and input the password (if you set a password) to set the sensitivity quickly.



4.1 Main Menu

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





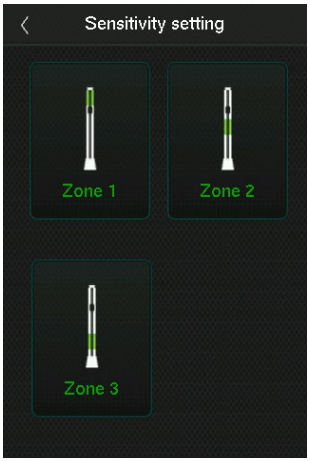
Item	Descriptions
Sensitivity	There are three zones, to set the sensitivity of detection. The larger the value, the more sensitive the system would be, i.e. if a larger value is set, the probe zone is much easier and frequently triggered. The valid value ranges from 0 to 100.
Security Level	Sets the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

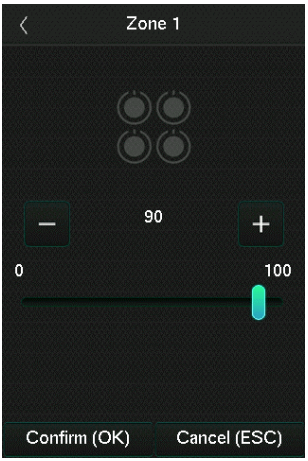
Application Area	You can set the usage area as per your requirements such as airports, customs, docks, prisons, train stations and bus stations.
Alarm Settings	To set the volume, alarm count, tone of the alarm and relay delay.
Autotest	To automatically test whether each module functions properly, including the Zone, LED and Speaker.
System Password	To set the password for data security.
Record Query	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.
System Settings	You may customize the sleep mode, system time, language settings and reset the device.
System Info	You can view the device name, serial number, MAC address, firmware, manufacturer information, MCU version and records.
COMM.	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.



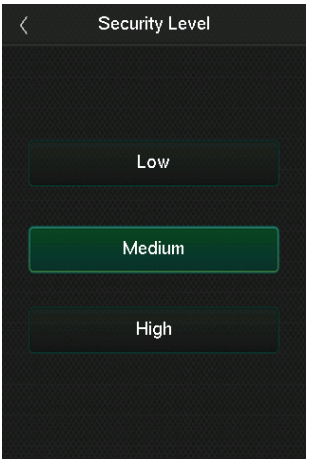


Select the zone to be adjusted, adjust the sensitivity of the zone in the zone interface, and click **[Confirm (OK)]** to save.

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.

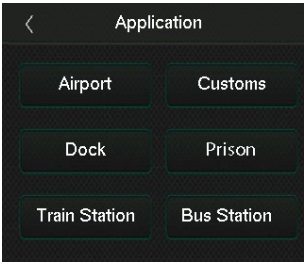


Select the security level according to your needs, and the settings will take effect automatically. Press the icon in the top left corner of the interface to exit the security level interface.

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.

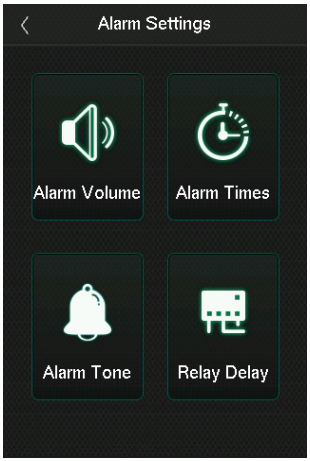


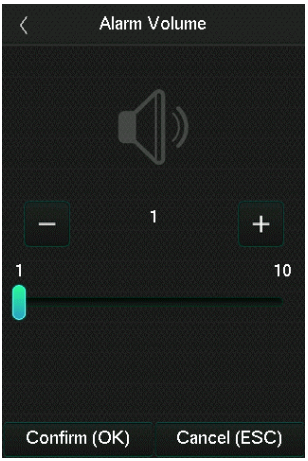
Select the application area according to the requirements and the settings will be updated automatically. Press the icon in the top left corner of the interface to exit the domain interface.

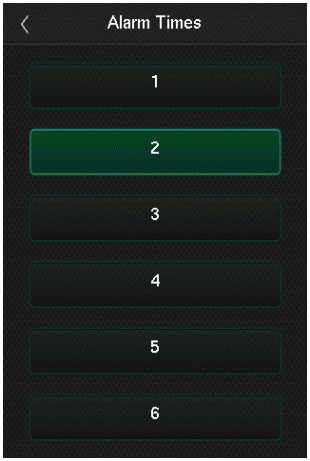
4.5 Alarm Settings

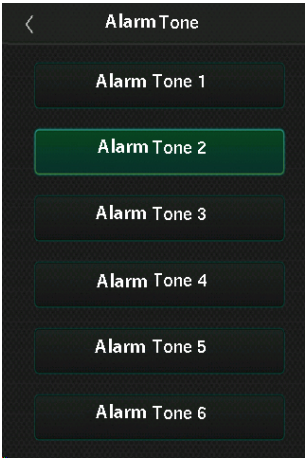
The Alarm Settings are used to set the volume, alarm count, tone of the alarm and relay delay.

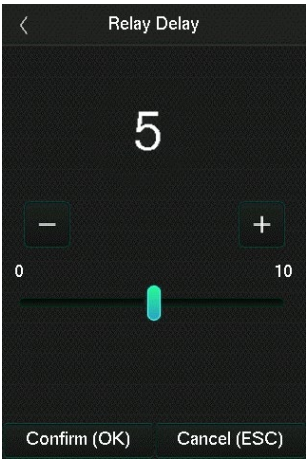
Click **Alarm Settings** on the main menu.









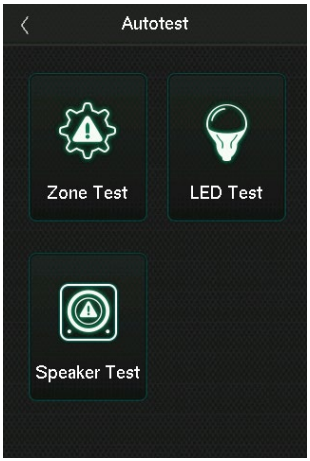


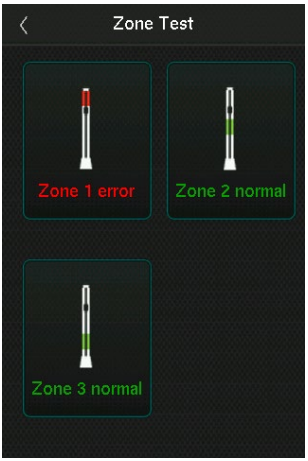
Menu	Descriptions
Alarm Volume	You can adjust the volume of the device; the valid rang is: 1 to 10.
Alarm Times	Set the times of alarms when the metal composition reaches or exceeds the preset value.(The default value is 2)
Alarm Tone	Select an alarm tone from the available options.
Relay Delay	Set the alarm delay time, the larger the number, the longer the alarm time output; the valid rang is: 0 to 10.

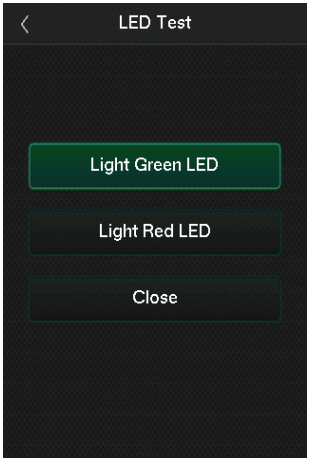
4.6 Autotest

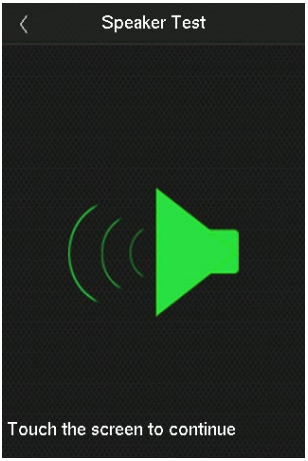
The Autotest option is used to automatically test whether each module functions properly, including Zone, LED, and Speaker.

Click **Autotest** on the main menu.







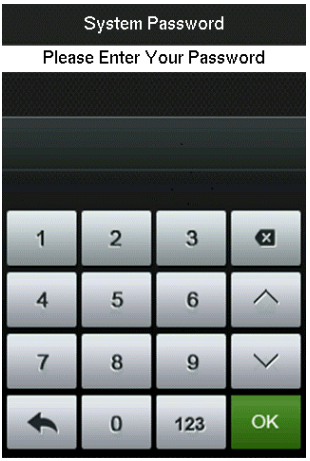


Menu	Descriptions
Zone Test	Check the detector by placing metal in the zone to check whether the detector is sensitive. When a metal is placed in the zone, the detector will alarm.
LED Test	Automatically tests whether the Red and Green LED indicators light up.
Speaker Test	To automatically test whether the audio files stored in the device are complete and the voice quality is good.

4.7 System Password

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

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

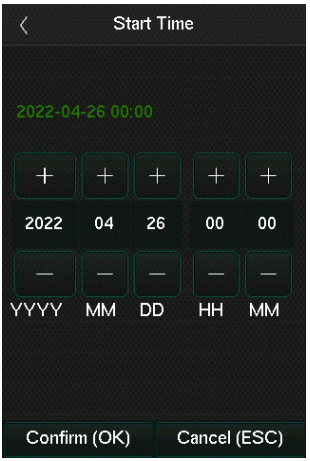


Enter a password and re-enter it. Click **OK**. If the two entered passwords are different, the prompt "Password not match" will appear. The default password is 0, which can be changed, the password may contain1 to 6 digits.

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.

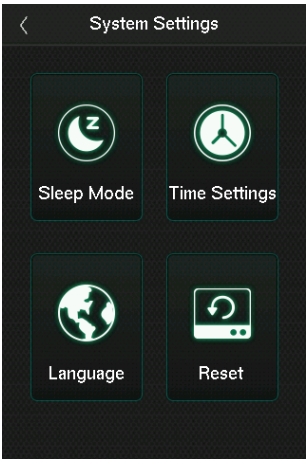


Select the time range you want to search records; press **OK**, the system will search and display the respective record.

4.9 System Settings

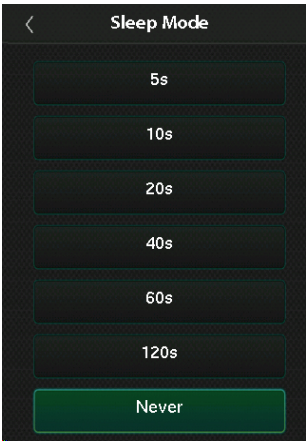
You may customize the screen sleep, time, language and reset the device.

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



4.9.1 Sleep Mode

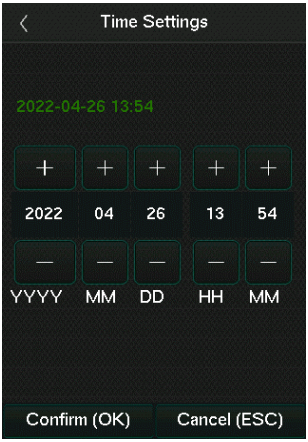
Click **Sleep Mode** on the System Settings interface.



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.

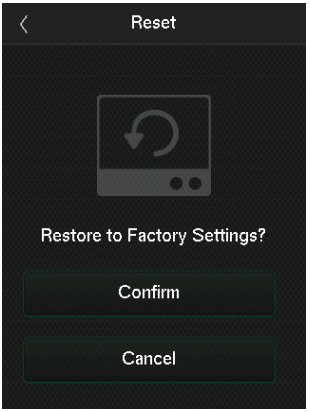
4.9.3 Language

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.

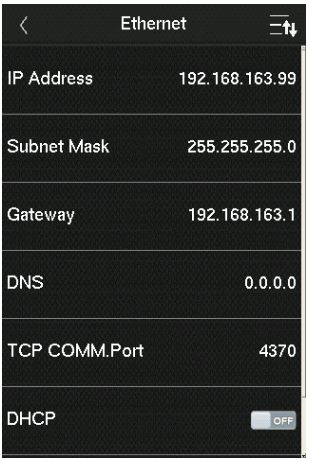
Here, you can view the device name, serial number, MAC address, firmware, manufacturer and MCU version information.

4.11 Communication (if applicable)

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

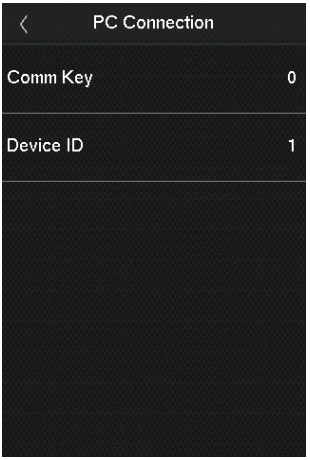
Click **Ethernet** on the COMM. interface.



Menu	Descriptions
IP Address	The default IP address is 192.168.1.201. It can be modified according to the network availability.
Subnet Mask	The default Subnet Mask is 255.255.255.0. It can be modified according to the network availability.
Gateway	The default Gateway address is 0.0.0.0. It can be modified according to the network availability.
DNS	The default DNS address is 0.0.0.0. It can be modified according to the network availability.
TCP COMM. Port	The default TCP COMM Port value is 4370. It can be modified according to the network availability.
DHCP	Dynamic Host Configuration Protocol dynamically allocates IP addresses for clients via server.
Display in Status Bar	Toggle to set whether to display the network icon on the status bar.

4.11.2 PC Connection

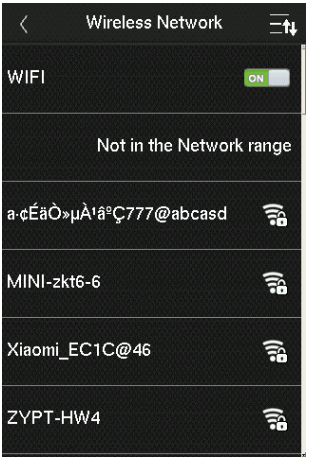
Click **PC Connection** on the COMM. interface.



Menu	Descriptions
Comm Key	The default password is 0 and can be changed. The Comm Key can contain 1-6 digits.
Device ID	It is the identification number of the device, which ranges between 1 and 254. If the communication method is RS232/RS485, you need to input this device ID in the software communication interface.

4.11.3 Wireless Network

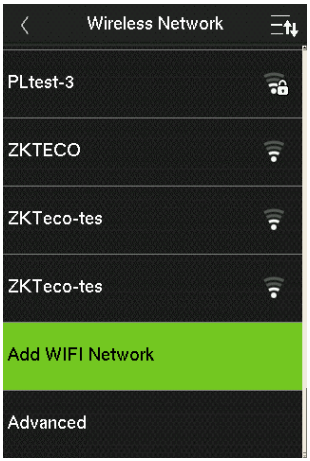
Click **Wireless Network** on the COMM. interface.

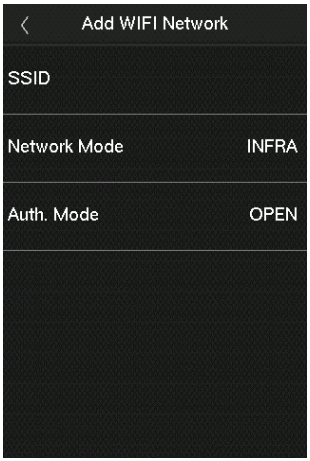


Tap on the required Wi-Fi name from the available list and input the correct password in the password interface, and then tap **Connect to WIFI (OK)**.

Adding WIFI Network Manually

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

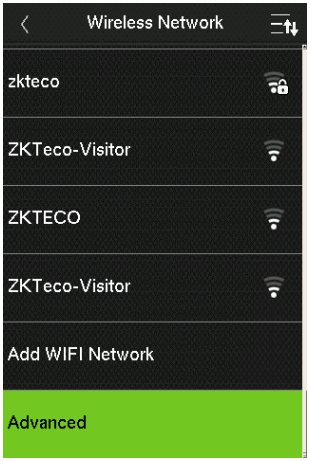


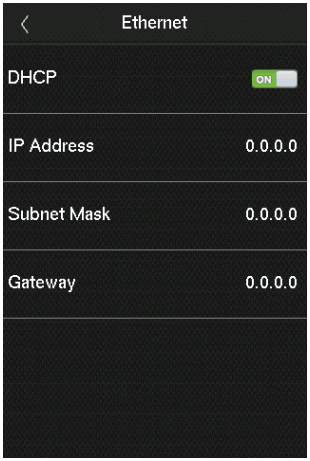


On this interface, enter the WIFI network parameters. (The added network must exist.)

Advanced Setting

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

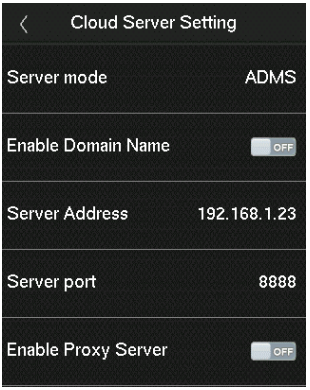




Menu	Descriptions
DHCP	Dynamic Host Configuration Protocol (DHCP) dynamically allocates IP addresses to network clients. If the DHCP is enabled, then the IP cannot be set manually.
IP Address	The IP address for the WIFI network, the default is 0.0.0.0. It can be modified according to the network availability.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

5 Testing Data Sheet

Item	Picture	Specifications / inch	Detection percent
Inert Firearm Assembled (Clock21 - 45 Cal)		L: 7.56 W: 1.28 H: 5.51	100%
Inert Firearm Assembled (NIJ – simulated 38 Cal)		L: 4.50 W: 0.75 H: 2.50	99%
Folding Lock Back Utility Knife (4"x3/8")		L: 4.00 W: 0.5 H: 1.75	100%
Paring Knife (4")		L: 4.00 W: 0.88 H: 1.00	100%
Serrated Knife (5")		L: 5.00 W: 0.88 H: 1.00	100%

Chef's Knife - Large (8")		L: 8.00 W: 0.88 H: 1.70	100%
Smartphone (iPhone11)		L: 5.75 W: 3.00 H: 0.50	100%

Device Setting: Sensitivity setting - High; Sensitivity Zone 1 - 85; Sensitivity Zone 2 - 75; Sensitivity Zone 3 - 75; Lane width(2 units) - 47

6 Maintenance

1. Make sure that the product is stored and used within the specified temperature range.
2. Avoid direct sunlight as much as possible to maintain the product's service life.
3. Every three months, use the ''Autotest'' option in the device menu to check the Alarm Zone LED, Indicator, Speaker, and Magnetic Sensor.
4. Every 6 months, clean the product surfaces.
5. To improve battery life if the product is not used for a long period of time, the lithium battery should be charged and discharged every six months.

7 FAQ

1. What kind of substances can the product detect?

A: Capable of detecting magnetic and ferrous material such as smartphone, guns, screwdrivers, etc.

2. Is the product suitable for outdoor use?

A: Yes, this product is IPX5 rated.

3. What is the battery duration of the product?

A: 8Hrs to be fully charged, supports 28Hrs of operation.

4. Does the product have communication capabilities?

A: It standard with TCP/IP and Wi-Fi communication protocols, as well as the relay output interface.

5. Is there a requirement for the product's placement direction?

A: The product's base is marked with a pointing mark, if placing it in that direction will get the best performance.

8 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