User Manual

Walk Through Metal Detector

AMD Series

Date: August 2024

Doc Version: 1.0

English

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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 manufacturer of RFID and Biometric (Fingerprint, Facial, 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 AMD Series Walk-through Metal Detector.

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

Table of Contents

1 Overview

1.1 Introduction

AMD600/AMD1800 Pro metal-detector is a walk-through metal-detector that is used for security screening at access points in the prisons, courthouses, and airports. Metal-detectors are highly sensitive to magnetic metals and have a high detection capability, with less ability to detect non-magnetic metals. They are used to detect the concealed metal weapons on a person's body. It offers high-speed detection capability. It can detect large metal objects like knives and guns. Its screening capacity is very large when compared to hand-held metal detectors.

1.2 Appearance
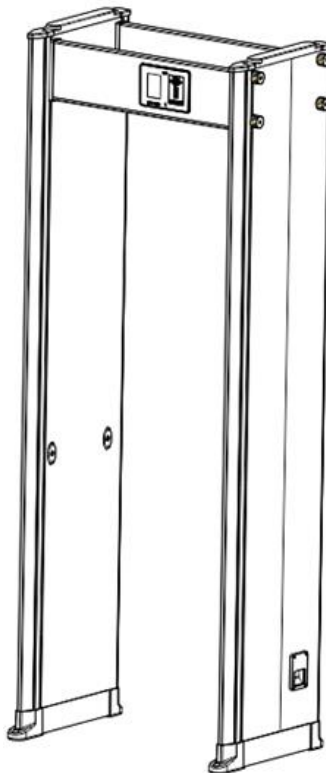
1.3 Components
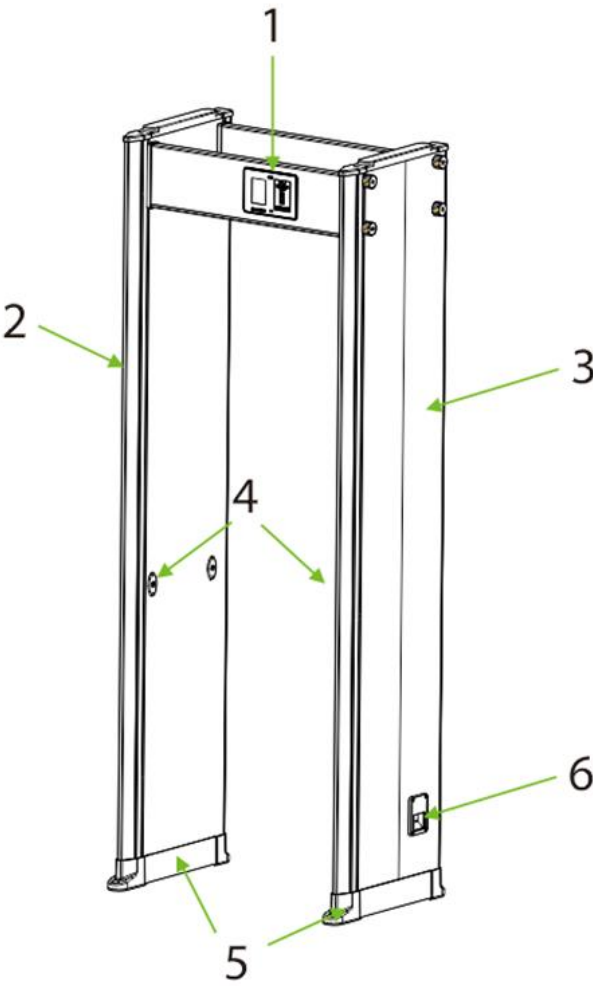
1. Beam	2. Alarm zone LED	3. Built-in Probe
4. Infrared Sensors	5. Waterproof Foot cover	6. Power-line interface

2 Product Specifications

2.1 Dimensions

AMD 600
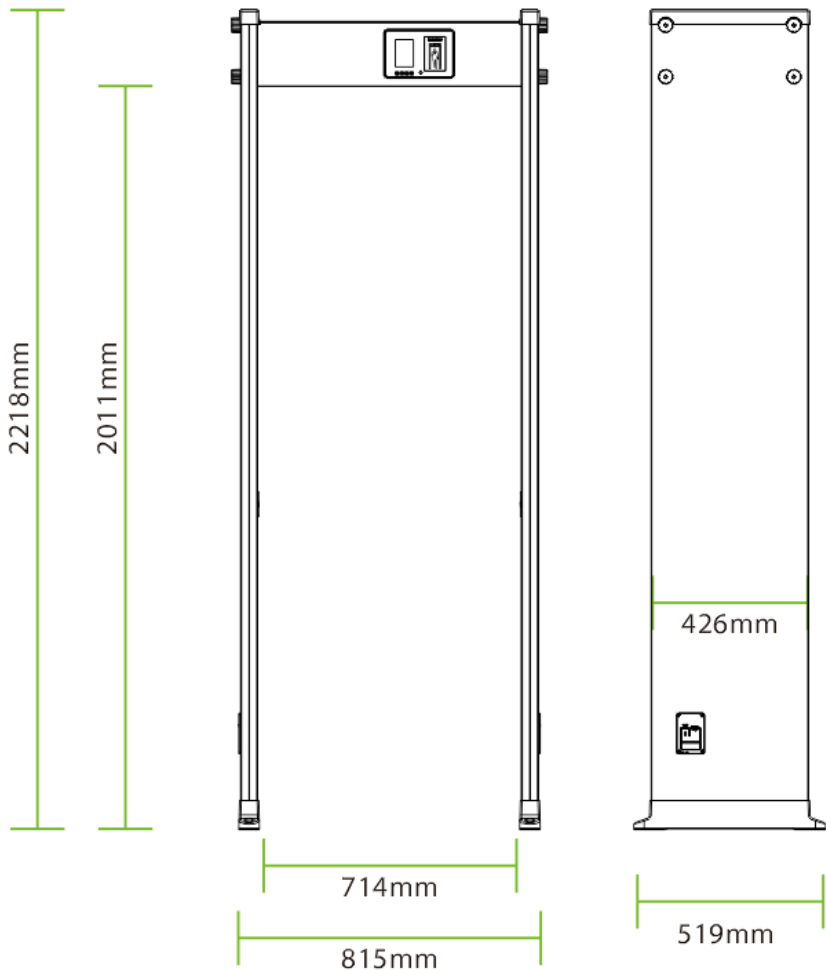
AMD 1800 Pro
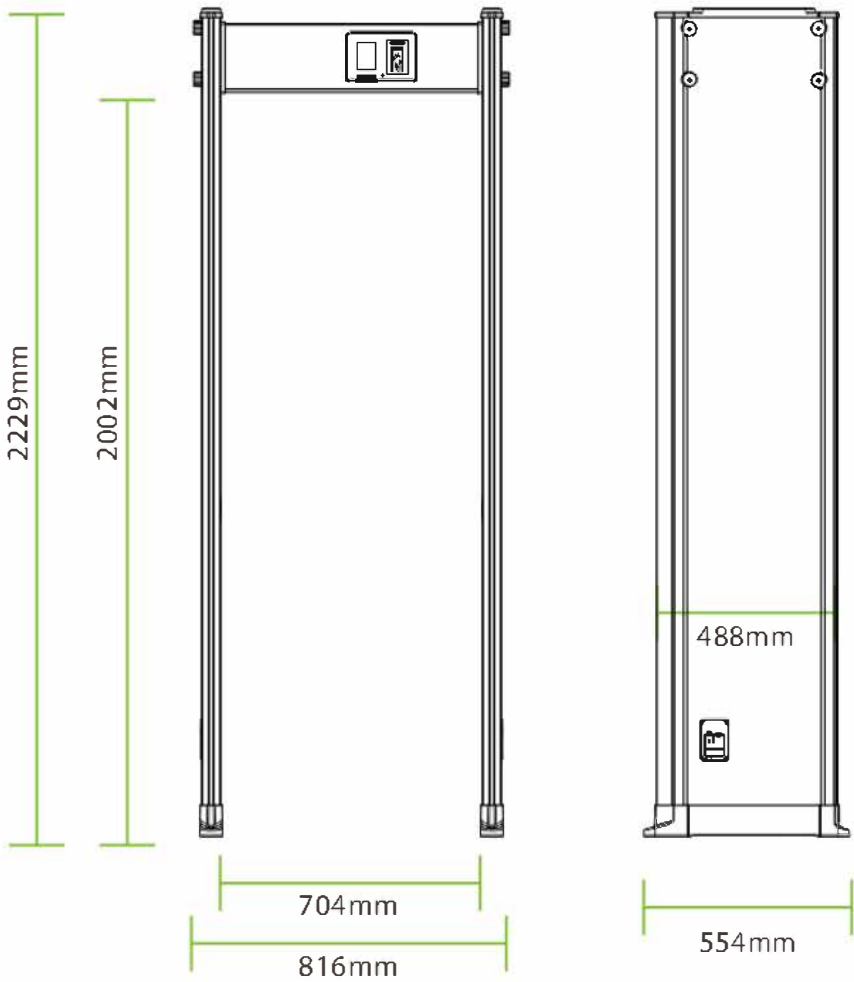
2.2   Technical Specifications

Feature		Specifications
Power		100-240V
Operating Temperature		-20℃ to +55℃
Operating Frequency		5.7KHz to 9.6KHz
Dimensions	**External**	AMD600: 2218(H)x815(W)x519(D)mm AMD1800 Pro: 2229(H)x816(W)x554(D)mm
	Channel	AMD600: 2011(H)x714(W)x426(D)mm AMD1800 Pro: 2002(H)x704(W)x488(D)mm
Weight		AMD600: 52 [kgs] AMD1800 Pro: 60 [kgs]

3 Installation Setup

3.1 Safety Precautions

- Install the detector in a stable and smooth area. Make sure that the detector is installed firmly in the selected area.
- It can be used for both indoor and outdoor purposes. If used outdoor, cover it with a canopy to protect against rain.
- Before installation, make sure the left and right door panels are placed at the corresponding location. Avoid high temperatures and wet environments.
- Wait for 1 minute for the self-diagnosis of the detector when it starts. Do not touch the detector during a security check to avoid false alarm.
- Install the detector away from radio-frequency devices to avoid interference. Make sure that there is no large metal object or strong magnetic field around the detector for at least 2 meters.
- Do not hit the detector hardly, as it may cause false alarms.
- Do not disassemble the unit without the guidance of a professional technician.
- Each device has a warranty card, with which users can have their devices maintained or repaired free of charge within the warranty period.

3.2 Instructions to Pedestrians

- A line must be drawn at 50cm away from the detector. The pedestrians must pass through the detector one-by-one.
- Pedestrians should line up one-by-one to ensure the smooth operation of the detector.
- Pedestrians should walk at a normal speed. They must not intentionally form a crowd, rush, walk slowly, or crush the door panel.
- Before passing through the metal detector, the pedestrians must remove all the carried metal objects (such as keys, mobile phone, watch, coins, etc.),

and place it on the security chute or a table, and pick it up after the security check.

- If the detector alarms when someone passes through, that means there is/are some metal object(s) hidden in the body. The security guard can use a hand-held metal detector to accurately detect the hidden position according to the alarm zones.

3.3 Installation Site

The following section describes the requirements of the installation environment.

3.3.1 Stationary Metallic Items

The detector must be installed away at 50cm from the stationary metallic items such as aluminum alloy/stainless-steel windows, doors, etc. to prevent false alarms and affecting the sensitivity of the detector.

3.3.2 Portable Metallic Items

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

3.3.3 Floor Vibration

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

3.3.4 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, Radiofrequency equipment, Interphone, High Power Motor, Power Transformer, Ac Power Lines, Thyristor Control Circuit (High Power Switching Power Supply, Inverter Welder), Engine, Motor, etc.

3.3.5   Parallel Installation

When two detectors are installed parallel to each other, the distance between two detectors must be greater than 50 cm. When three detectors are installed parallel to each other, the distance between each detector must be greater than 80 cm. They must operate at a different frequency to avoid interference. The distance varies according to the actual working environment, it is not recommended to mount three detectors in parallel, the frequency can be adjusted according to the environment.

3.4 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.

Left Door Panel   Right Door Panel
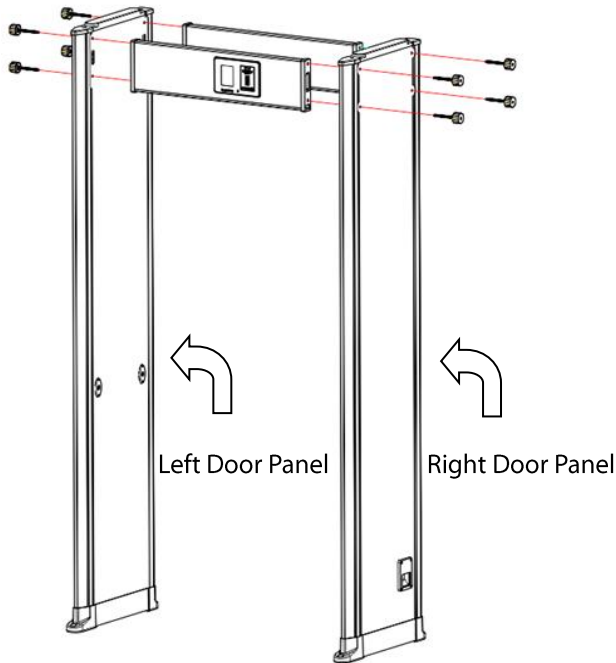
1. Open the Control unit and Door panel package.

2. Install the control unit and the door panels as shown in the above diagram. Connect the door panels to the control unit with bolts and nuts and tighten the screws.

3. Insert the probe-lines of the left and right door panels to the corresponding sockets on the mainboard.

4. Then lift the Walk-through metal detector vertically and place it in the required area.

5. Finally, plug in the power cable to start working.

4   Performance and Technical Features

Accurate Positioning: There are 6/18 overlapping detection zones with bilateral transmit and receive technology. The detection zones can accurately detect the objects with an intuitive display of the target location.

Micro Processor Technology: The Microprocessor Control Unit generates the electromagnetic waves for scanning and the scanning rate can be precisely controlled.

Adjustable Sensitivity: AMD600 detection zones have 100 sensitivity levels (1 to 100), AMD1800 Pro detection zones have 256 sensitivity levels (1 to 256). You can preset the metal size, by excluding the false alarm of coins, keys, jewelry, belt buckle, etc.

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

Count Statistics: The detector displays the number of pedestrians passed and Alarm count accurately.

Harmless: The detector is harmless to heart pacemakers, pregnant women, magnetic floppy disks, recording tapes, etc.

Waterproof Foot Cover: The waterproof foot cover not only can fix the device firmly but also protect the device against water.

Safety: The Control Unit case and the panels are waterproof. The cover is made of PVC synthetic material which makes the detector waterproof, fireproof, and shockproof.

Easy to install: The detector has an integrated design and it can be effortlessly installed or disassembled in 15 minutes.

5 Control Panel
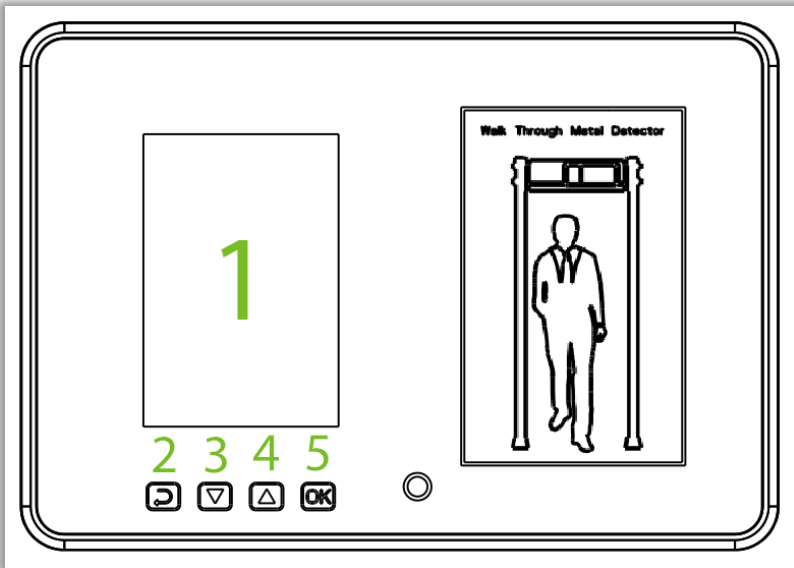
The components of the Control Panel are given below:

1. **LCD:** Displays the Pass count, Alarm count, Password settings, and other information.

2. **ESC**: Press to discard the settings and exit the menu.

3. ∇: Adjustment (decrement) key to decrease the parameter values.

4. $\triangle$: Adjustment (increment) key to increase the parameter values.

5. **OK**: Opens the Menu interface, saves the settings, and exits the menu.

Note: There is a network interface on the back of AMD1800 Pro.

6 Detection Zones

The AMD series detectors can detect a wide range of threat objects/weapons composed of magnetic, non-magnetic metals and alloys.

Chassis panel: The screen shows the number of people passing the detector and the number of alarms.

Alarm zones:
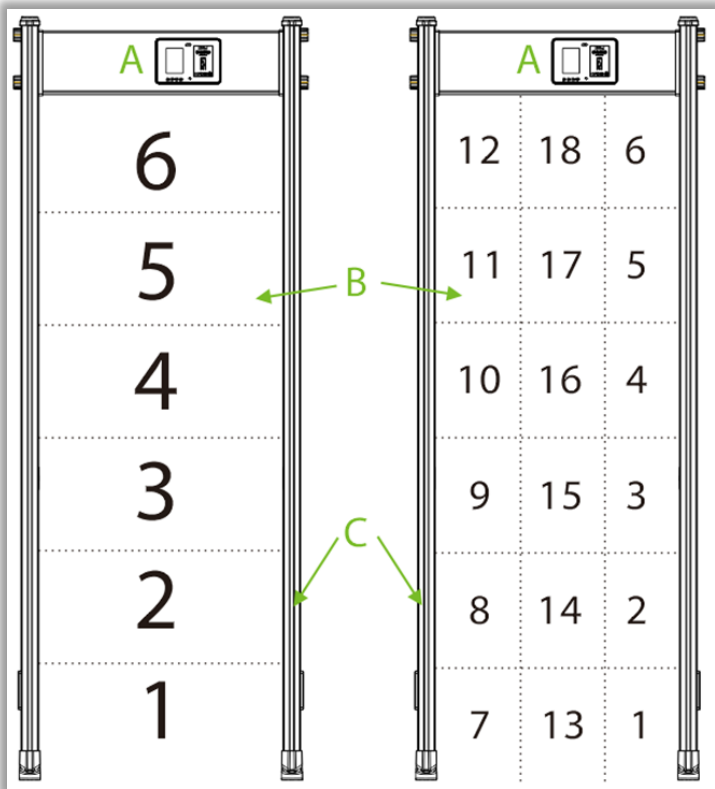
6 zones: The zones are classified as 1 to 6 from bottom to top.

18 zones: The zones are classified as 1 to 18 from bottom to top (default).

There are six unique sets of precise positioning LED's evenly distributed on the door panels, which means 18 detection zones. If the metal composition reaches or exceeds the preset value, the red LED glows and an alarm will be triggered. If there are multiple alarm targets, the LED of each target location will glow with alarm.

Infrared Sensor

After connecting the power supply, the metal detector starts to work. When there is no person or object passes through the detector, the infrared sensors can effectively stop alarming to avoid false alarms. It also helps to maintain an accurate count of pedestrians and alarms.

6.1   Adjustment of Detection Zone's Sensitivity

1. The device must be in a stable position to achieve the best detection effect (refer Installation Site). To check whether the device is in a stable state, perform the following steps:

    a) Power on the detector and check whether it is not shaking after one minute.
    b) The device should not alarm when the testing person did not carry any metal items while walking through the detector.

2. You can exclude the small portable metal objects such as rings, key, belt buckle, shoes, and so on, by following the steps given below:

    a) Choose a small metal as a sample. Increase the sensitivity, so that when the testing person carries the sample and pass through the detector, and it would alarm.
    b) Decrease the sensitivity a little, carry the sample, and pass through the detector again. If it still alarms, once again reduce the sensitivity, until the device does not alarm when the sample is passed through.

Note: If you want to decrease the sensitivity in a certain zone, you must only adjust the sensitivity of the relative zone. After implementing the above adjustments, the metal which smaller than the sample will not alarm, but the metal objects bigger than the sample can be detected accurately.

7 Operational Procedure

Connect the power supply to the detector. After 2 seconds of initialization, you can perform the following operations.

Press the **OK** button on the Control panel to open the main menu.

MENU
Sensitivity
Channel
Buzzer
Alarm Time
Date& Time
Sens Range
Application
Storage
Relay
Password
Network
Restore
About

7.1 Sensitivity Adjustment

On the main menu, select **Sensitivity** and press **OK** to set the sensitivity level of each detection zone. Press **"∇"** and **"△"** to select the detection zone and then press **OK** to confirm. Then press **"∇"** and **"△"** to change the sensitivity values. The larger the sensitivity value, the higher the sensitivity. Then press **OK** to save the settings.

Sensitivity (AMD600)	Sensitivity (AMD1800 Pro)
ZoneALL：100	ZoneALL：256
Zone 6：100	Zone 12：256
Zone 5：100	Zone 11：256
Zone 4：100	Zone 10：256
Zone 3：100	Zone 9：256
Zone 2：100	Zone 8：256
Zone 1：100	Zone 7：256
	Zone 6：256
	Zone 5：256
	Zone 4：256
	Zone 3：256
	Zone 2：256
	Zone 1：256

7.2   Operating Frequency

In the main menu, select **Channel** and then press **OK**. The channel range is from 1 to 40. The default value is 14. Press **"△"** and **"▽"** to select the **Channel** and then press **OK** to save the settings.

Channel
01——40

7.3   Buzzer Settings

In the main menu, select **Buzzer** and then press **OK** to confirm. Press **"△"** and **"▽"** to select whether to turn on or off the buzzer and press **OK** to save the settings.

Buzzer
OFF
ON

7.4   Alarm Time

In the main menu, select **Alarm Time** and then press **OK** to confirm. The default alarm time is 1 second. Press "▽" and "△" to select the alarm time as per your requirements and press **OK** to save the settings.

Alarm Time
0.5s
1.0s
1.5s
2.0s
…
10.0s

7.5   Date and Time

In the main menu, select **Date & Time** and then press **OK** to open the time and date setting interface. Press **"△"** and **"▽"** to adjust the time. Press **OK** after setting the time. Then press **ESC** and then switch to date. Set the date and then press **OK** to save the changes.

Date & Time
2020-07-10 12:00

7.6   Sensitivity Range

In the main menu, select **Sens Range** and then press **OK** to set the intensity of the sensitivity levels. Press "△" and "▽" to select the sensitivity settings for all the zones. Press **OK** to save the settings.

Sens Range
High Medium Low

7.7   Application Area

In the main menu, select **Application** and then press **OK** to confirm. Press **"△"** and **"▽"** to adjust the real-time application area. Press **OK** after setting the application area.

Application	
Airport	Conference
Customs	Train Station
Port	Motor Station

Prison	Police Office
Detention	School

7.8　Data Storage

In the main menu, select **Storage** to open the data storage interface. Use the "△" and "▽" to select whether to save the data or not. You can also delete the pedestrian count and Alarm count. Press the **OK** to save the settings.

| Storage |
|:-------:|
| Save |
| Don't Save |
| Clear Pass (Clear Pedestrian Count) |
| Clear Alarm (Clear Alarm Count) |

7.9　Relay Settings

In the main menu, select **Relay** to open the extended output interface. Use the "▽" and "▽" to select the required function. When "Close" is selected, the relay function will be disabled. When "No Metal" is selected, the detector will send a signal to the relay when the person does not carry any metal during detection. When "With Metal" is selected, the detector will send a signal to the relay when the person carries any metal during detection. Then press **OK** to save the changes. (This function is only available for AMD1800 Pro).

| Relay |
|:-----:|
| Close |
| No Metal |
| With Metal |

7.10　Login Password

In the main menu, select **Password** to configure the Password. Press "△" and "▽" to

set the password, and press **ESC** to clear the entered value. Press **OK** to save the settings.

Password
New Password   ＊　＊　＊　＊　＊　＊

7.11   Network Settings

In the main menu, select **Network** to open the network setting interface. Use the "▽" and "△" buttons to select the Device Name, Network Address, and Gateway Address. Press **OK** enter the next digit or **ESC** set back the previous digit. After the last digit is modified, press **OK** to save the settings. (This function is only available for AMD1800 Pro)

Network
Name   F 0 0 0 0 1   **IP**   255.255.255.255   **GWIP**   192.168. 1. 1

Note:

1.   When the Network Address is 255.255.255.255, it is connected automatically. You need to connect a network cable to obtain the IP. If the network cable is not connected, the security gate will enable the backup parameters at this time:

     Standby IP: 192.168.161.168

     Backup Gateway: 192.168.161.1

2. The default mask is 255.255.255.0. The default mask can be modified by using the security gate networking software. The Data loss and factory reset parameters will restore the default mask to 255.255.255.0.

7.12 Restore

In the main menu, select **Restore** to restore the factory settings. Select **"Yes"** and press **OK** to restore the original factory settings. Select **"Cancel"** or press **ESC** to cancel the operation.

Restore
Cancel
Yes

7.13   Default Parameters

Parameter	Default Value
Sensitivity	AMD600: 86 AMD1800 Pro: 221
Channel	14
Buzzer	ON
Alarm Time	1.0 s
Application Area	Train Station
Data Saving	Save
System Password	100000
Relay Settings (AMD1800 Pro)	Close
Network Settings (AMD1800 Pro)	Name: F00001 IP: 255.255.255.255 GWIP: 192.168.__1.__1

Troubleshooting

What to do if the Sensor could not count?

a) Check whether the probe cables are connected firmly with the door panels.

b) Check whether there is any infrared interference beside the device, such as infrared surveillance system, infrared remote control, outdoor sunlight, etc.

c) If both a and b are OK, replace the infrared sensor.

What to do if the detector gives a false alarm?

a) If the device gives false alarms frequently after installation, perform the following steps:

- Firstly, check the installation environment. Make sure there are no movable or stationary large metal objects around 1.5 meters from the detector. If there is any metal object, try to place the device away from the large metal objects.

- Make sure that the installation location is stable and free from physical movements.

b) If the false alarm is not caused by the environment, reduce the sensitivity level of all zones.

c) Change the frequency.

d) Change the installation location.

Packing List

The package consists of the following items:

No	Component	Quantity
1	Power Adapter	1 set
2	Power Cable	1 set
3	Hexagon Socket Set Screw	8 pcs
4	Inner Hexagon	1 pcs
5	User Manual	1
6	Front Beam	1 pc
7	Rear Beam	1 pc
8	Panel	2 sets
9	Infrared remote control (AMD600: Optional AMD1800 Pro: Standard)	1 pc

Warranty Card

1. Please keep this card safe and produce the same during maintenance.

2. This card will be invalid without the signature or stamp of the designated dealer.

3. This card will be regarded as invalid if the details are not filled in three guarantees column and the acknowledgment of the receipt. Please confirm whether the data filled in the three guarantees column and acknowledgment of receipt is correct or not when purchasing it, and then hand it over to the dealer.

4. This card will not be issued again if it is lost.

Model Number	
ID	
Date of Acquisition	
User	
Post Code	
Address	
User's Phone Number	
Fax	

Date of Maintenance	Record of Maintenance	Technician

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