



## Walk-Through Metal Detector

User Manual

# Legal Information

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## Regulatory Information

**FCC Information**

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**FCC compliance:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**FCC Conditions**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**EU Conformity Statement**

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info)



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: [www.recyclethis.info](http://www.recyclethis.info)

**BATTERY WARNING**

1. Do not ingest battery, Chemical Burn Hazard
2. Keep new and used batteries away from the children.
3. If the battery compartment does not close securely, stop using the product and keep it away from children.
4. This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and lead to death.
5. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

**BATTERY CAUTION**

1. Risk of fire or explosion if the battery is replaced by an incorrect type.
2. Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the

case of some lithium battery types).




3. Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
4. Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
5. Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
6. Dispose of used batteries according to the instructions
7. The equipment is not suitable for use in locations where children are likely to be present.

#### **INSTALLATION CAUTION**

1. The additional force shall be equal to three times the weight of the equipment but not less than 50N. The equipment and its associated mounting means shall remain secure during the installation. After the installation, the equipment, including any associated mounting plate, shall not be damaged.
2. This equipment is not suitable for use in locations where children are likely to be present.

# Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 <b>Danger</b>	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
 <b>Caution</b>	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 <b>Note</b>	Provides additional information to emphasize or supplement important points of the main text.

# Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

## Laws and Regulations

- Use of the product must be in strict compliance with the local electrical safety regulations.

## Transportation

- Keep the device in original or similar packaging while transporting it.
- Keep all wrappers after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and the company shall not take any responsibilities.
- Do not drop the product or subject it to physical shock. Keep the device away from magnetic interference.

## Power Supply

- Input voltage should meet the Limited Power Source according to the IEC61010-1 standard. Please refer to technical specifications for detailed information.
- Make sure the plug is properly connected to the power socket.
- DO NOT connect multiple devices to one power adapter, to avoid over-heating or fire hazards caused by overload.

## Battery

- Improper use or replacement of the battery may result in explosion hazard. Replace with the same or equivalent type only. Dispose of used batteries in conformance with the instructions provided by the battery manufacturer.
- The built-in battery cannot be dismantled. Please contact the manufacture for repair if necessary.
- For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.

## Maintenance

- If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- A few device components (e.g., electrolytic capacitor) require regular replacement. The average lifespan varies, so periodic checking is recommended. Contact your dealer for details.
- Wipe the device gently with a clean cloth and a small quantity of ethanol, if necessary.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.

## Using Environment

- Make sure the running environment meets the requirement of the device. The operating temperature shall be -20°C to 55°C, and the operating humidity shall be 10%-95%, no condensing.
- DO NOT expose the device to high electromagnetic radiation or dusty environments.
- DO NOT aim the lens at the sun or any other bright light.

## Emergency

- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.

## **Manufacture Address**

No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China  
Hangzhou Hikvision Digital Technology Co.,Ltd

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# Chapter 1 Overview

## 1.1 Product Description



This smart security door is a walk-through metal detector which has high sensitivity and strong anti-interference ability. It can detect metals from people who pass through the gate, which can effectively check illegal items. It supports networking functions to meet the platform management needs in different scenarios. It can be used in public security organs, prisons, governments, transportation hubs, enterprise parks, office buildings, schools, hospitals, cultural and expo scenic spots, large-scale security activities, etc.

## 1.2 Key Features

- Networking function: the device can connect to a single machine, and parameters can be configured via web client;
- Metal detection: 1 yuan coin-sized metal can be detected, effectively checking illegal items;
- Ultra-low detection height: metal objects more than 3 cm above the ground will trigger alarm when they enter the detection area;
- Power-on self-test function: self test the system when power on, and test results will be displayed;
- LCD color screen display: display the menu, the number of people who passed through, number of metal alarm and other information.
- Multi-zone alarm function: when multiple metals in different positions of the human body pass through the security gate, they will trigger alarm at the same time, and positions of multiple metals can be indicated.
- Modular component design: convenient and quick to transport and maintain.

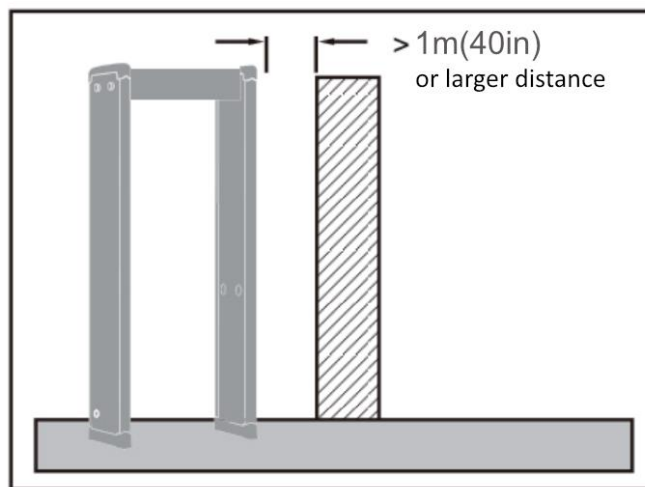
## Chapter 2 Installation

### 2.1 Installation Environment

In order to ensure the optimal operation of the detector and the maximum flow of people, the following important factors are taken into account to minimize the impacts made by different interference sources.

#### 2.1.1 Fixed Metal Object

Large fixed or immovable metal objects should be at least 1m (40in) away from the detector (to detect large metal objects). This has less impact on the sensitivity, but may make the detector more susceptible to vibration.

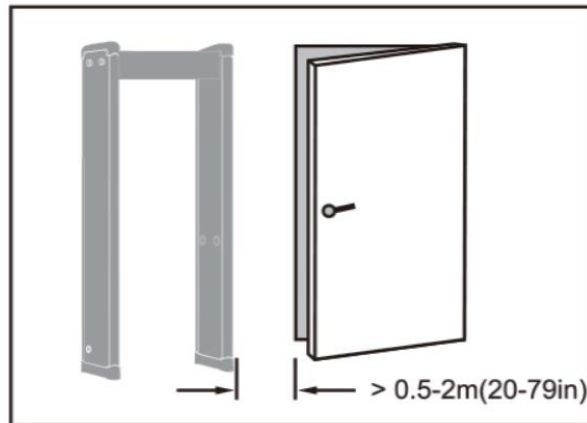


#### 2.1.2 Ground Vibration

The ground should be flat, with strong support, to prevent vibration, especially when there are vibration metal structures under the ground.

#### 2.1.3 Moving Metal Object

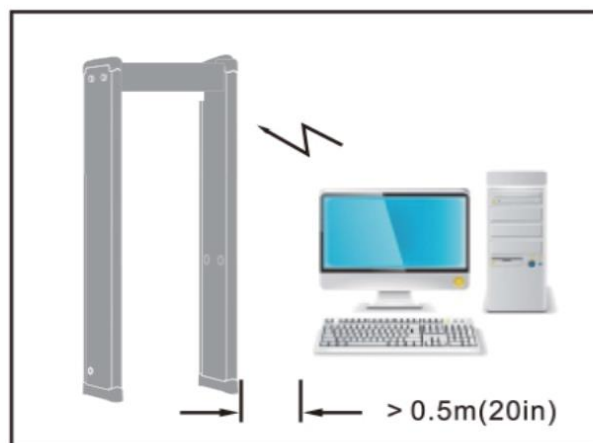
The large metal objects moving outside the detector shall be kept at least at a distance of 0.5-2m (20-79in) from the detector to avoid false alarm. According to the size of the metal object, the distance between the required moving metal object and the detector may differ.



## 2.1.4 Radiated Electronic Interference

The distance between the electronic interference source and the receiving coil should be maximum. The recommended minimum distance is 0.5-4m (20-157in). However, the actual distance should vary according to the specific situation.

The interference may be caused by electronic control panel, radio equipment and computer, image display, high-power motor and transformer, AC wire, transistor control circuit, flash fluorescent lamp, ARC welding equipment, etc.

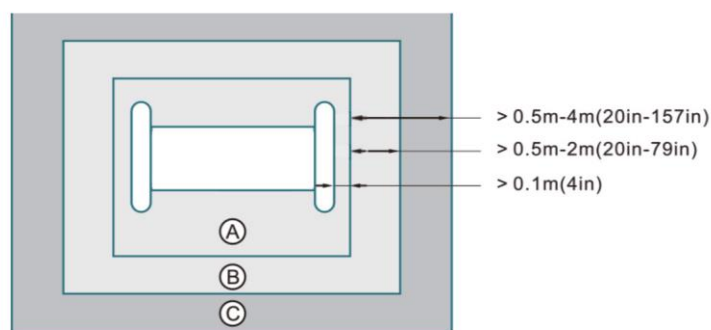


## 2.1.5 Conducting Electronic Interference

Connecting the power cable to a circuit that is not connected with other large load equipment may cause voltage shock.

The recommended min. distance away from the interference source:

- A. With fixed metal object
- B. No moving metal object is allowed
- C. No electronic interference source is allowed



Note: Make the Receiving Coil (RX) away from the interference source. Make sure the interference level displayed on the environment inspection indicator is less than 2.

## 2.2 Multiple Device Working Side by Side

Side-by-side operation refers to the operation of two or more detectors in close proximity to each other. With side-by-side operation, the detector may interfere with each other. The level of interference depends on the distance between the detectors and their operating frequency and sensitivity.

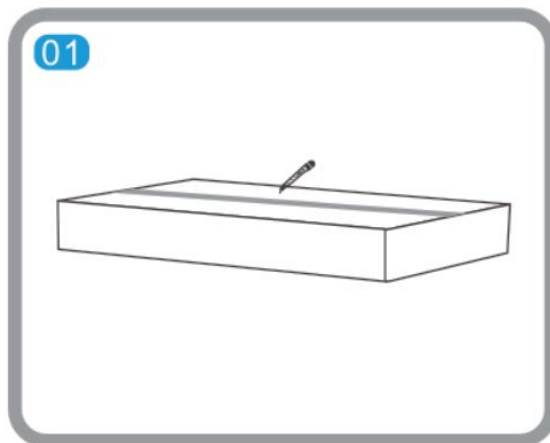
The detector has different working frequency selection, which can decrease the effect of interference of other gates. The operating frequency of each detector should be different.

## 2.3 Before Working Device Setting

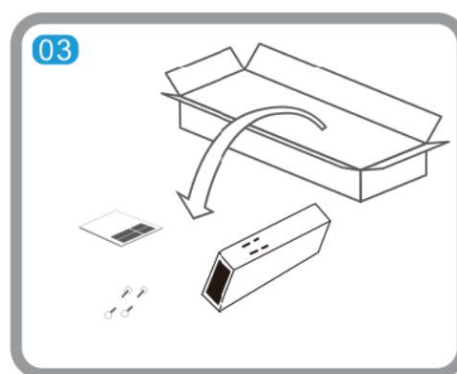
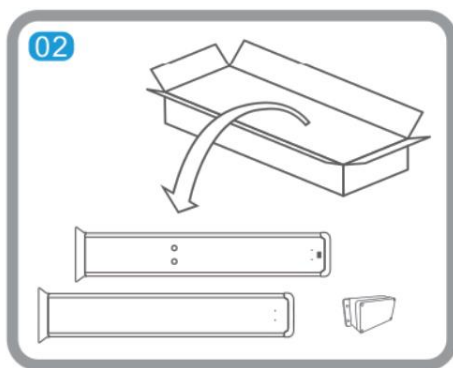
Select the smallest metal item to be detected. Choose one person to carry the item and pass through the security gate (Make sure the person doesn't take any other extra metal items). Adjust the alarm threshold to meet the detection requirements. (Note: the factory detection standard is one-yuan coin passing horizontally, and the detection alarm triggered.)

## 2.4 Installation and Wiring

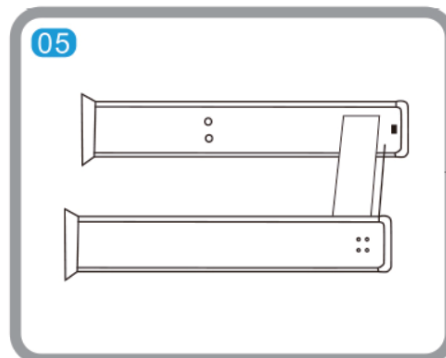
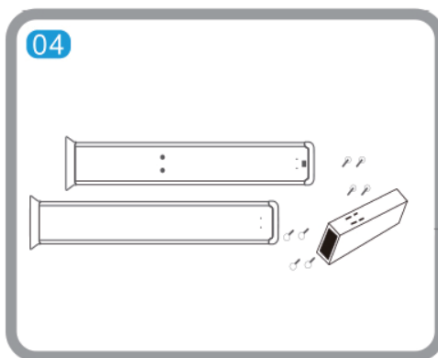
1. Check if the package is completed and then open the package box.



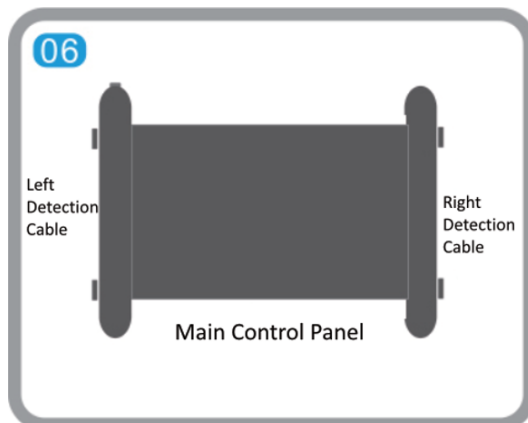
2. Take out the device and accessories.



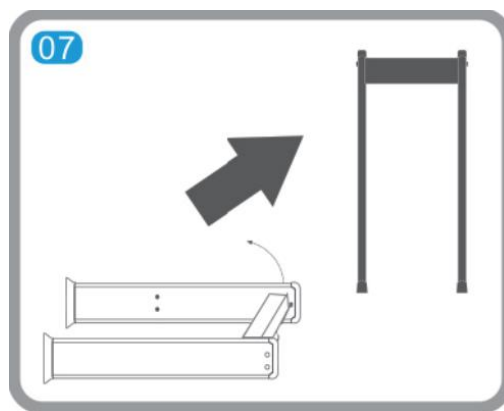
3. Install the door planks, screws, and main control panel. Tighten the screws to fix all the components.



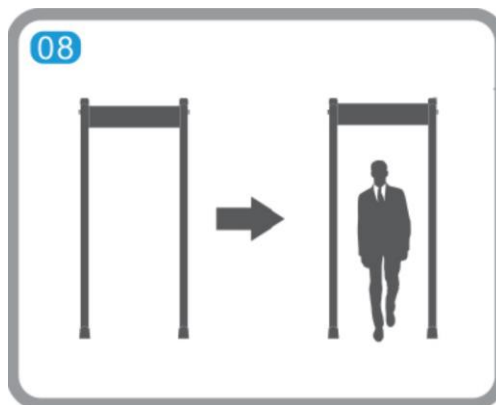
4. Connect the 2 detection cables, 1 power cord and 1 network cable.



5. Upend the device.



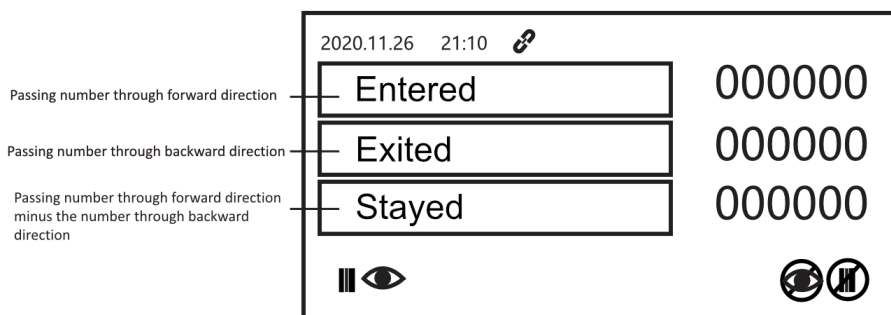
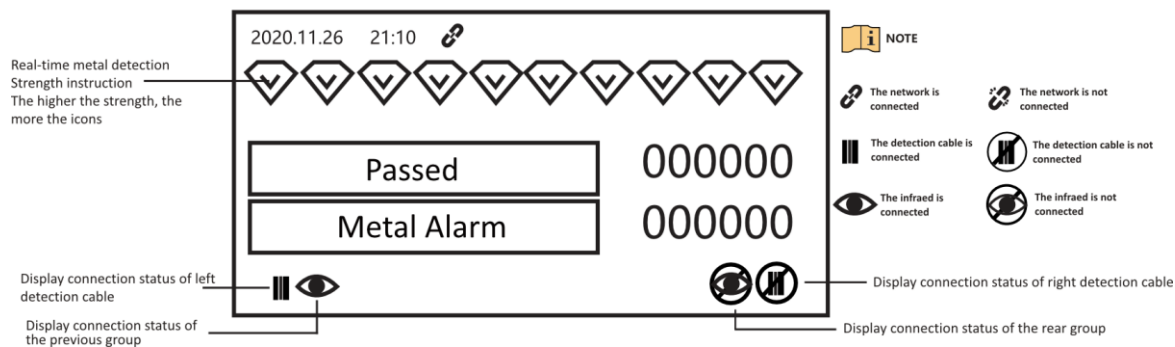
6. Connect the power supply to the device and turn on the power switch to start the device.



## Chapter 3 Local Configuration

### 3.1 Function Description

#### Local Page Instruction





## 3.2 Control Panel Settings




### Starting up

Connect the power supply and press the power button. The device will start and enter the system self-test program. At the same time, the column lights in each area will be on at this time.

### Input Password

When using the security gate for the first time, customers need to activate the device and set the password by themselves.

### Equipment Self-test

The current infrared and door status will be displayed on the left and right corners of the device UI. If the fault occurs, the corresponding position will display an icon like  .

### 3.3 Remote Control Instruction



Power Button: Power on or off the machine



Home button: Return to home page



Debugging Button: Enter the page of debugging configuration



Menu Button: Enter the menu page



Return Button: Return to the previous menu or cancel the setting



Direction Button: Switch options or modify parameters

Confirm Button: Enter next menu or confirm settings

Note: Reserved function, realized after the gate is upgraded



Volume -



Volume +



Mute Button



### 3.4 Activation Instructions

After powering on, you need to activate the device. You can activate the device via SADP tool or web client.

#### Activate Device via SADP Tool

1. Connect the device and the PC with a network cable.
2. Install and run the SADP tool.
3. Check the device status from the device list, and select an inactive device.
4. Create a password in the password field, and confirm the password.
5. Set network parameters.

#### Activate Device via Web Client

1. Connect the device and the PC with a network cable.
2. Enter the device IP address in the web browser.
3. Enter the account of admin and create a password in the pop-up window.

We highly recommend you create a strong password of your own choosing (using 8-16 characters, including at least two kinds of following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

## Chapter 4 Network Settings

After the power is on and the device is connected to the network, enter the IP address, activate the device and enter the page of network settings.

1	<b>Alarm threshold:</b> the lower the value, the higher the ability of metal detection.
2	<b>Working frequency:</b> set the working frequency of the coil. When there are multiple devices working side by side, make sure the frequency between each gate is different.
3	<b>Automatic frequency setting:</b> set the function of automatic frequency. After enabling, the gate will choose the frequency to configure automatically.
4	<b>Alarm tone:</b> set the sound effect of the alarm.
5	<b>Alarm volume:</b> set the volume of the alarm.
6	<b>Alarm duration:</b> set the length of the alarm.
7	<b>Detection area:</b> set the detection area of the gate.
8	<b>Quick scene:</b> after enabling, the gate will set sensitivity based on quick scenario system.
9	<b>Pass direction:</b> set the pass direction of the gate. The side without LCD screen will be taken as the forward direction by default.
10	<b>Automatic clearing:</b> configure whether to clear the count automatically after powering on.
11	<b>Intrusion alarm:</b> configure whether to enable intrusion alarm. After enabling, if the metal enters the gate before the detection process is finished, the intrusion alarm will be triggered.
12	<b>Casting Metal Mode:</b> configure whether to enable casting metal detection, which is to link with infrared for metal detection.
13	<b>Random alarm:</b> configure whether to enable random alarm. After enabling, if there is no alarm after multiple people passing, a random alarm will be triggered when next person passes.
14	<b>Alarm output:</b> configure metal alarm linking alarm output, which can be linked with peripheral devices such as turnstile.

# Appendix

## FAQ

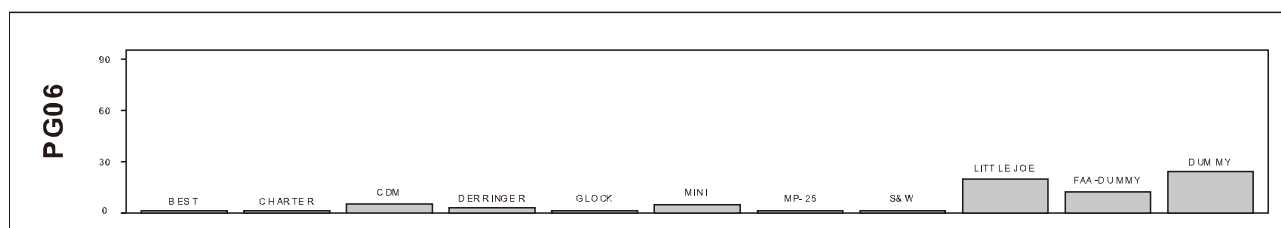
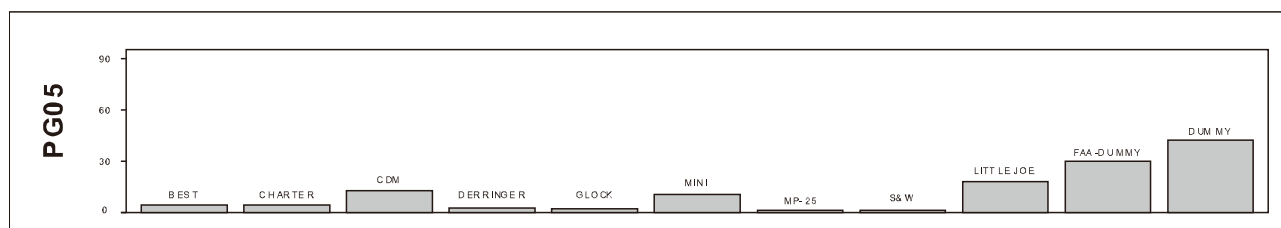
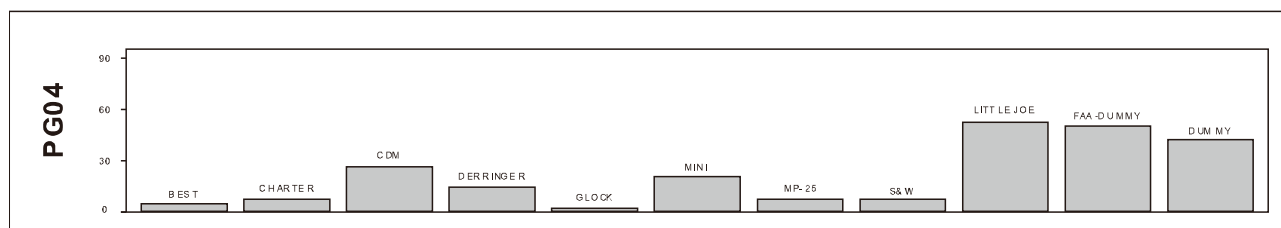
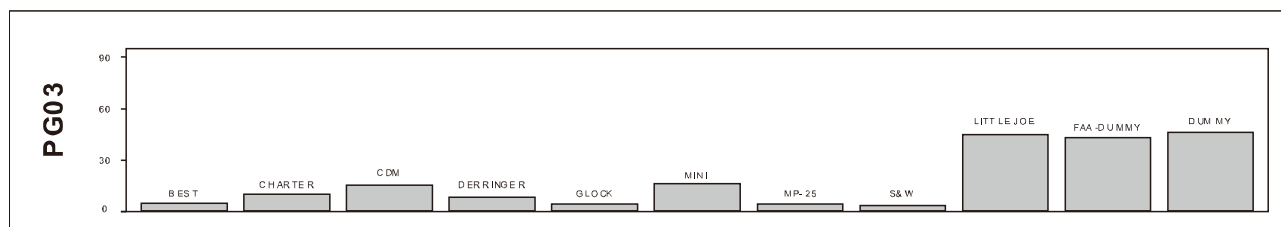
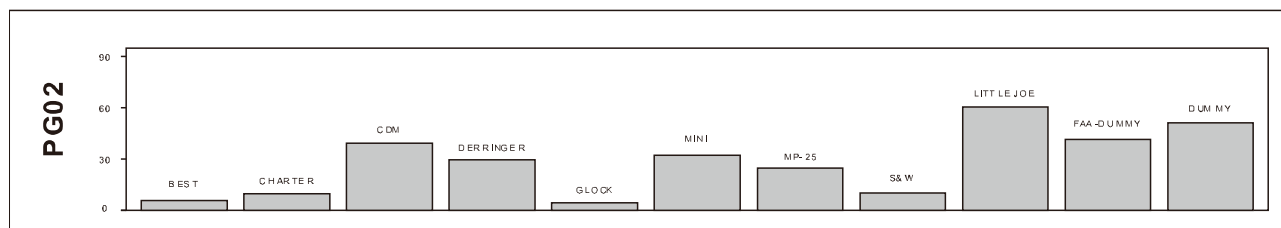
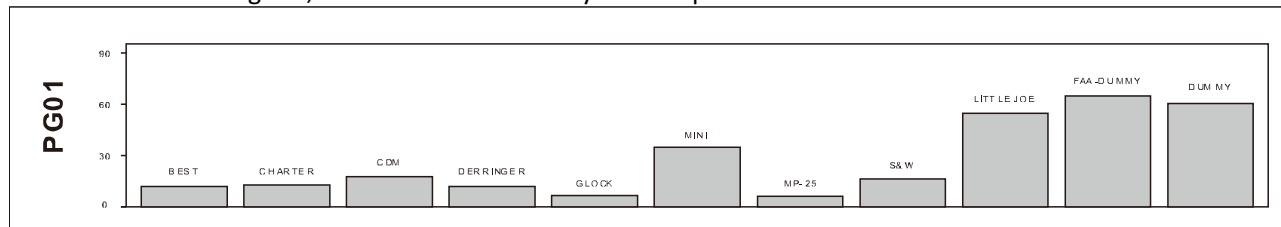
No.	Symptom	Description	Possible Reason	Solution	Tool
1	Unable to Boot	The device cannot be normally started after installation	<ol style="list-style-type: none"> <li>1. Check whether the power button is on and whether the button indicator light is on.</li> <li>2. Check whether the power cord is damaged, broken, bad contact, etc., and whether the power supply of the main chassis is normal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace digital board</li> <li>2. Check power supply circuit</li> </ol>	Manual operation
2	Screen off	The LCD screen is off	Check whether the power button is on and whether the connecting wire of the connecting panel of the main board is properly plugged.	Replace cable, display, and digital board.	Manual operation
3	No people counting	The number of people displayed as 0001 or 0000.	Repeatedly pass through, and the number of people passing through does not change.	Replace the infrared component	Manual operation
4	False Alarm	The alarm is triggered when there is no people walk through	<ol style="list-style-type: none"> <li>1. Check whether the environment around the detector affects. Change the frequency.</li> <li>2. Whether the number of people passed automatically changed.</li> <li>3. Adjust the alarm threshold</li> <li>4. Check whether there is any large metal within 1 m nearby. If there is, please stay away.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the infrared component</li> <li>2. Adjust the sensitivity value</li> </ol>	Manual operation
5	Omitting alarm	No alarm when walk through the detector with metal	<ol style="list-style-type: none"> <li>1. Adjust the alarm threshold</li> <li>2. Check whether there is any large metal within 1 m nearby. If there is, please stay away.</li> </ol>	Adjust the alarm threshold	Manual operation

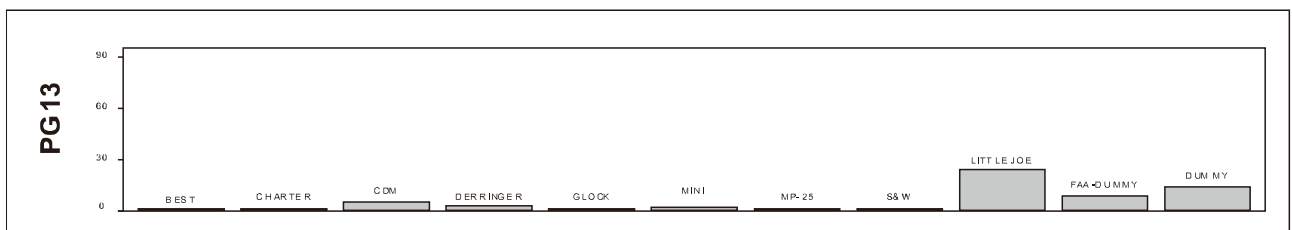
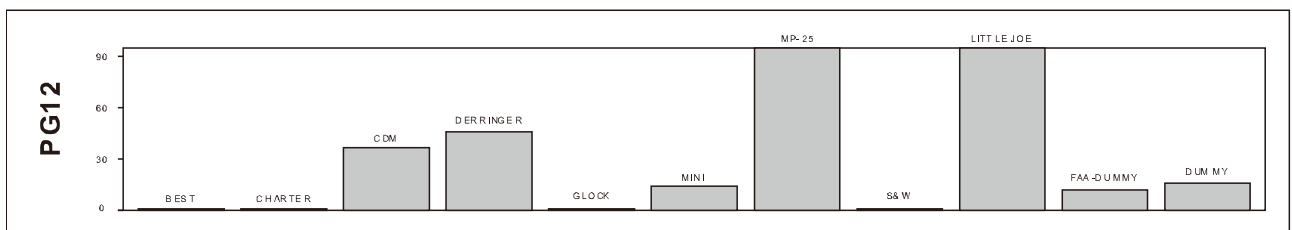
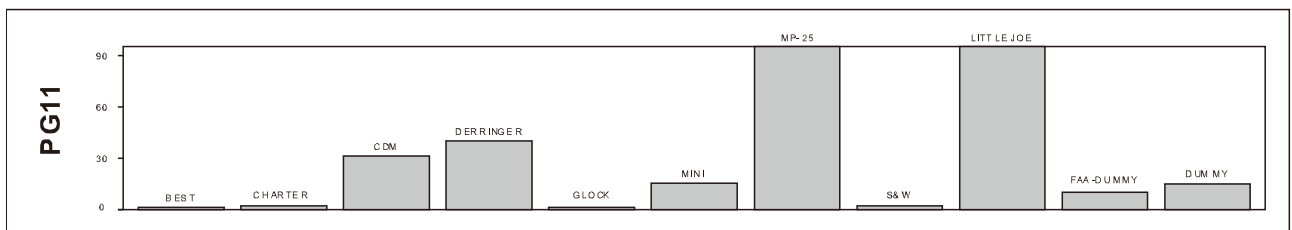
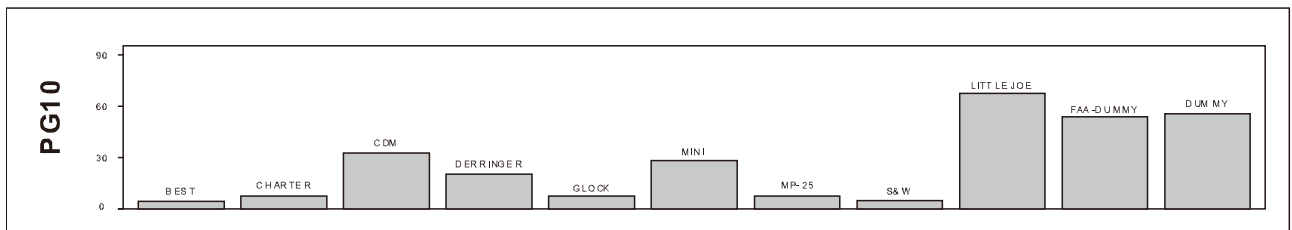
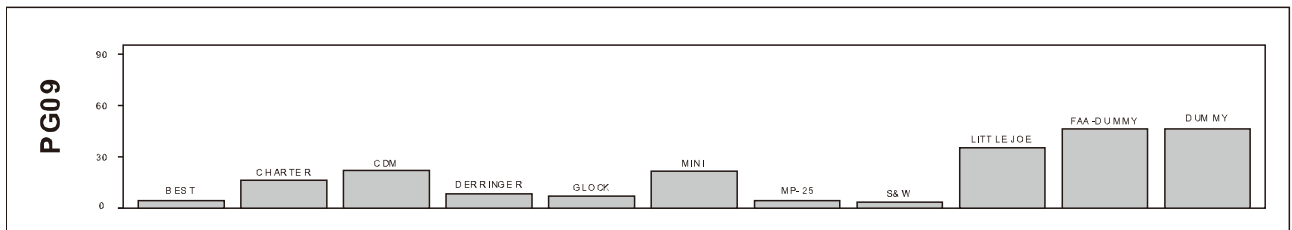
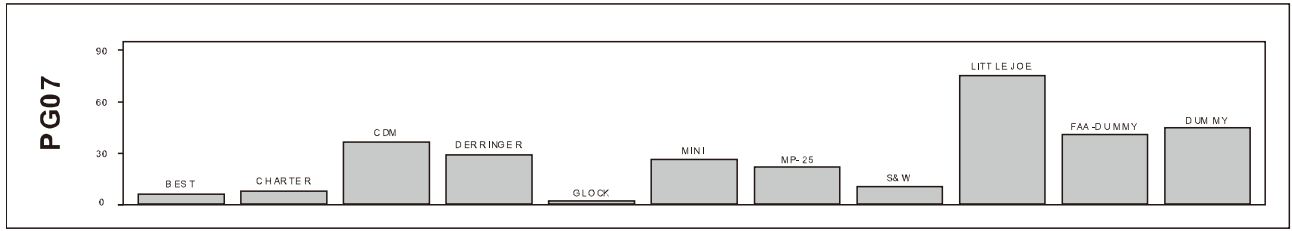
## Common Material Emissivity Reference

Material	Emissivity
Human Skin	0.98
Printed Curcuit Board	0.91
Concrete	0.95
Ceramic	0.92
Rubber	0.95
Paint	0.93
Wood	0.85
Pitch	0.96
Brick	0.95
Sand	0.90
Soil	0.92
Cloth	0.98
Hard Paperboard	0.90
White Paper	0.90
Water	0.96

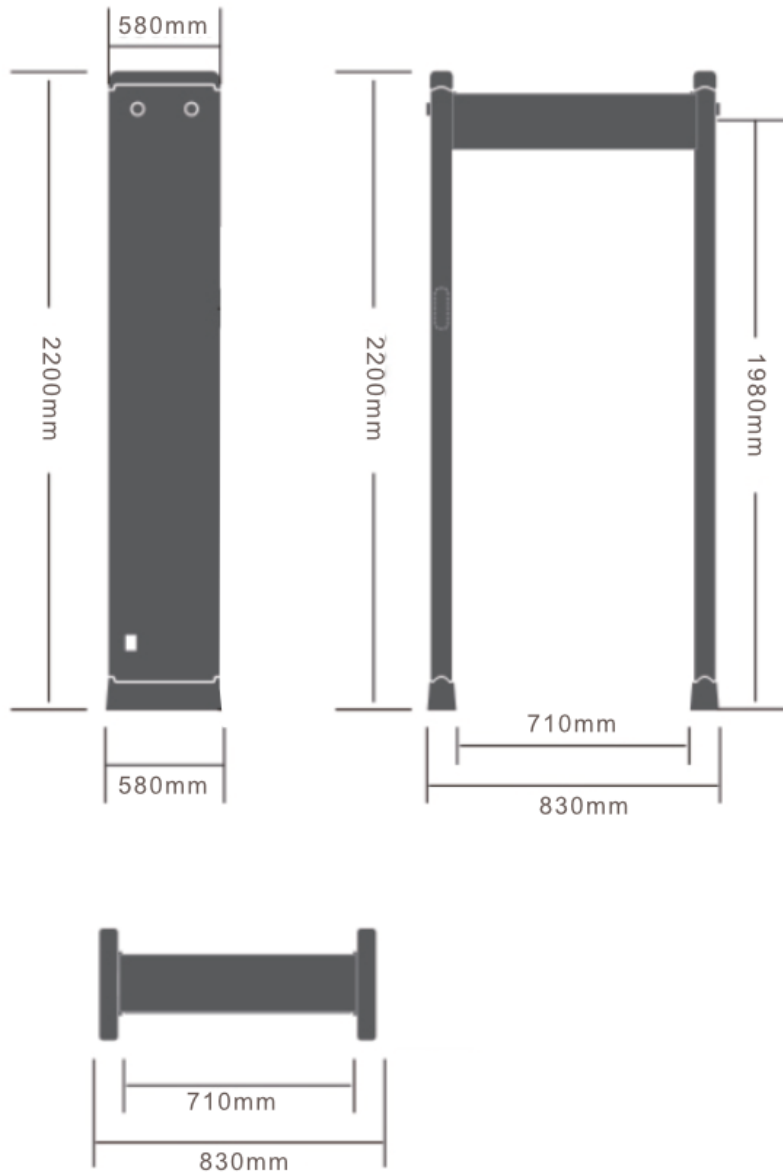
## Detection Sensitivity for Guns

The smaller the histogram, the lower the sensitivity level required.





## Dimension





## Detection Program

Detection Program	Description	Performance		Distinguishability	
		High Pass	Optimizing Detection	High	Low
PRG 01 USA PRG 02 USA HD	U.S. airport security requirements	x	x	x	x
PRG 03 CAN PRG 04 CAN HD	Canadian airport security requirements	x	x	x	x
PRG 05 GER PRG 06 GER HD	German airport security requirements	x	x	x	x
PRG 07 UK PRG 08 UK HD	The UK airport security requirements	x	x	x	x
PRG 09 USG PRG 10 USG HD	U.S. government security requirements	x	x	x	x
PRG 11 SCA PRG 12 SCA HD	Scandinavian airport security requirements	x	x	x	x
Material Sensitivity Program					
PRG 13 STANDARD	General detection program				
PRG 21 PB-LEAD	Sensitivity to lead (as opposed to iron)				
PRG 22 MU-METAL	Maximum sensitivity for mu-metal				
PRG 23 ALLMETAL	High sensitivity to all metals				
PRG 24 FE >>>> AL	The procedures from 24 to 32 are compared with 40 mm iron and aluminum tubes.				
PRG 25 FE >>> AL					
PRG 26 FE >> AL					
PRG 27 FE > AL					
PRG 28 FE = AL					
PRG 29 FE < AL					
PRG 30 FE << AL					
PRG 31 FE <<< AL					
PRG 32 FE <<<< AL					

## Specification

General	Power supply	AC 100 V~240 V
	Consumption	< 25 W
	Operation temperature and humidity	-20°C to 55°C, 10% to 95%, RH
	Testing object	Illegal items, including smart phones and metals
	Current frequency	50 Hz~60 Hz
Dimension	Detector dimension	2200 mm x 830 mm x 580 mm (H x W x D)
	Channel dimension	1980 mm x 710 mm x 580 mm (H x W x D)
Weight	Net weight	< 60 Kg