



**METAL  
DEFENDER**

**MD-12**

User Manual



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**Please read the following carefully before operation:**

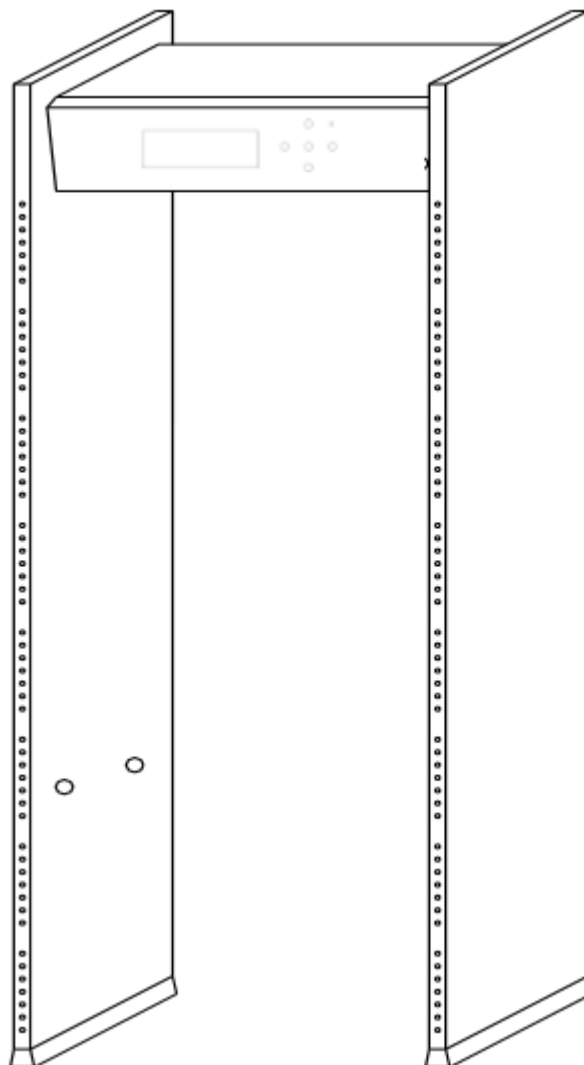
The following precautions are intended to tell you how to operate this product appropriately and safely. Please read this part carefully and make sure that you understand completely before you read other parts of this manual.

1. The unit can be used indoor and outdoor. If using outside, please use a canopy to protect against rain and moisture.
2. Choose a location that is smooth and stable. Do not touch the detector during security screening to avoid a false alarm.
3. Make sure there are no large metal objects or strong magnetic field around the detector within 6 feet (2 Meters).
4. Keep the detector far from any power lines and communication cables.
5. Do not install the unit in wet or high temperature environment.
6. Do not disassemble the unit without help from a technician.
7. Please wait 1 minute for the unit to self-diagnose when starting the machine.
8. Follow the user manual when installing to make sure the wire connection is correct inside the unit prior to powering on the unit.

## Product Description

Metal Defender walk through metal detectors employ advanced digital detection technology designed specifically for the use of detecting metal and alloy materials hidden on a human body. The unit's sensitivity can be adjusted: the highest sensitivity could detect an object the size of a paper clip and alert personnel to the zone where the metal is hidden.

The user could also adjust the individual zones to exclude common metal objects carried on a day to day basis including: coins, keys, jewelry, belt buckles. The MD-12 is perfect for environments where theft protection is needed: industrial and mining enterprises, banks, e-recycling and refurbishment, and warehouses as well as environments where it is necessary to prevent the carrying of dangerous items: Airports, prisons, customs warehouses, amusement parks, and stadiums. The Metal Defender metal detector is your easy to use, reliable, cost effective choice for security metal detection.



## **Interference**

The interferences that can interfere with the operation of this detector are described as follows:

### **Mechanical Interference**

**Revolving Door:** The distance between the revolving door and this detector should be 1000 mm. Make sure the door is opened outwards. For two doors, this detector should be installed on one of them, and we advise you to lock the other door. For Metal door, we advise you to cut one corner of the metal door frame to insulate its metal loop. After installing this detector, rotate the door back and forth to check the installation effect.

### **Electronic Interference**

There are many objects that can produce electronic interference to this detector such as elevators, motors, TV sets, computer monitors, telephone wire and mobile phones. Keep these objects away from this detector.

### **The Moving Object**

If this detector is installed too close from the road, the go and from large vehicles will influent its normal work. Therefore, we advise you to keep this detector away from the road as far as possible when install it.

### **Parallel-In Application Requirement**

While in parallel- in application, the minimum distance between the two detectors should be over 700 mm to avoid any interference with each other.

## **Performance and Features**

The metal detector can be operated through the operating panel. The unit can precisely display the detected metal hidden on the body and the alarm zone can be directly displayed through the LED zone indicators. An audible alarm will simultaneously go off.

In maximum sensitivity, it can detect metal the size of a paperclip. The sensitivity for each zone can be adjusted in the range of 0-255. Zones can be adjusted to not detect items such as belt buckles or cuff links.

By applying digital, analog, and left-right balancing technology, the unit can effectively prevent false alarms.

Password protection ensures only authorized personnel can alter settings in the walk through unit.

Records number of people passed through as well as the number of triggered alarms.

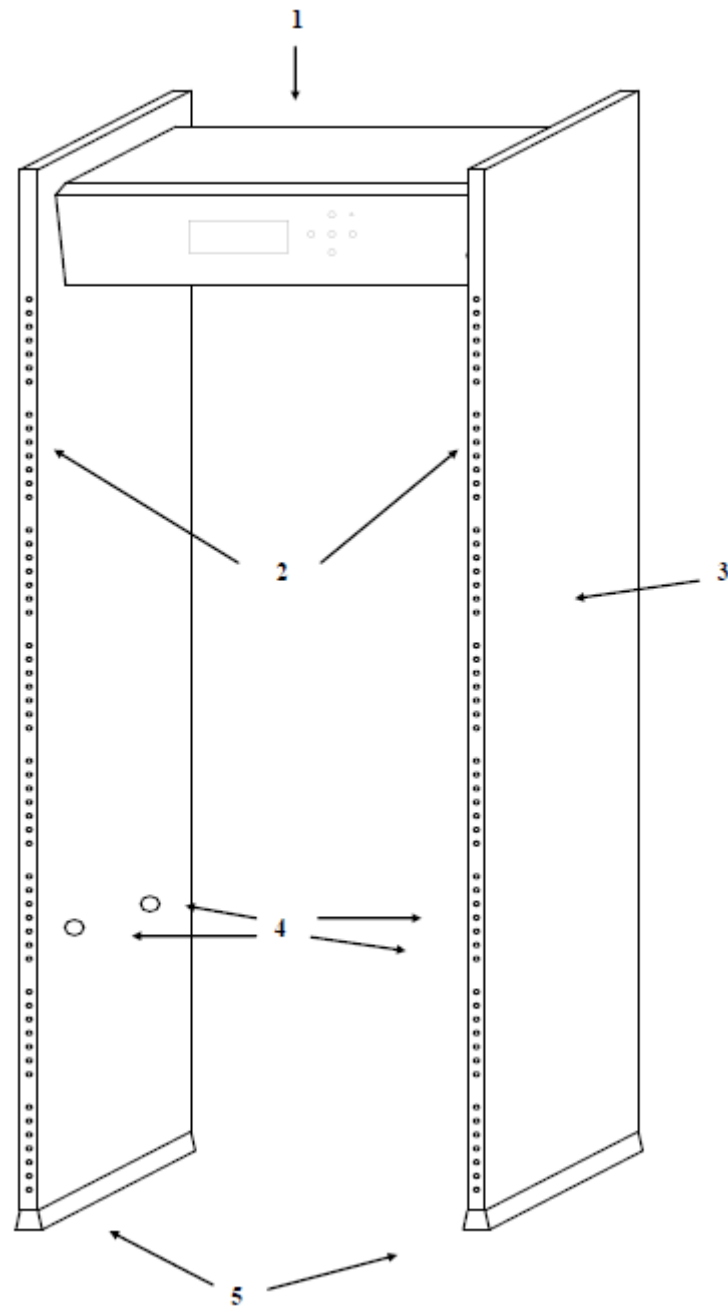
Harmless to heart pacemaker, pregnant woman, magnetic soft disc and tape, etc.

The power supply for the whole machine is located on the top of the base unit, which can be controlled with operating panel.

Advanced alloy material increases fire and water resistance.

It only needs 10 minutes to install or disassemble the detector for its integration design.

## Parts of the Detector



1. Base Unit
2. Alarm Indicator
3. Probe
4. Infra Sensor
5. Water-Proof Feet

## Installation

Please read through the precautions prior to installation, so as to ensure a normal operation of the product and avoid external interference.

- 1). Unscrew the control panel case and open it.
- 2). As in figure 2-3, connect the control panel case to left door and right door at the location of the bolt hole openings, tighten the bolts with the provided nuts.
- 3). Connect the left and right communication lines inside the control panel to each of the door panels, then connect the power line to the door panel where you will be drawing power from.
- 4). Secure the top panel of the control unit case with the provided screws, push up the assembled unit to rest on the feet as in Figure 4.
- 5). Insert the power plug and turn on the unit by flipping the switch.

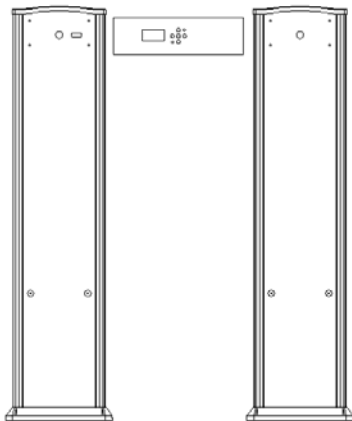


Figure 2

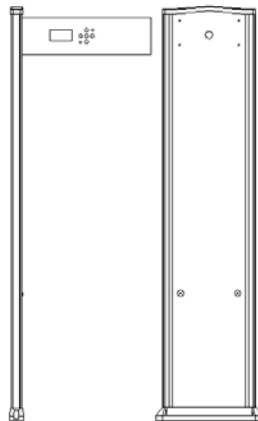


Figure 3

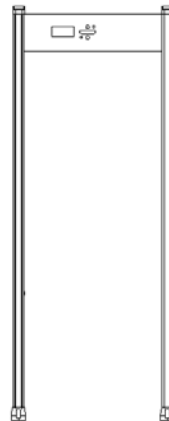
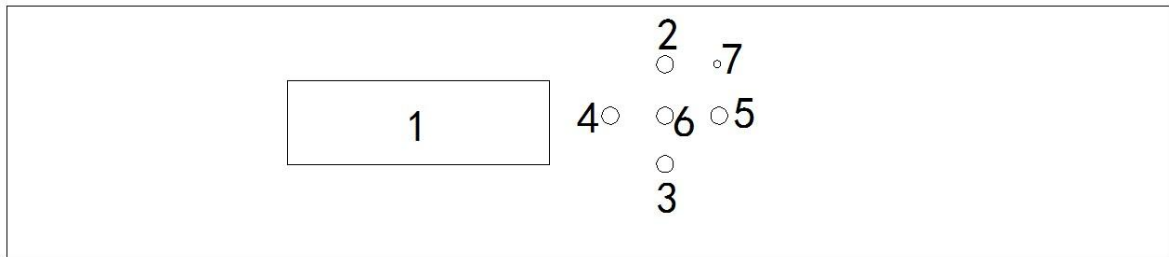


Figure 4



## Panel Interface



1. LCD Display Interface: It displays each parameter during debugging; alarm records and the amount of the pass throughs
2. Up Key: Number adjustment (increase)
3. Down Key: Number adjustment (decrease)
4. Left Key: Menu upward key or cursor left key
5. Right Key: Menu downward key or cursor right key
6. Enter Key: Enter function setting during debugging
7. Indicator: Red means power down status; green means working status

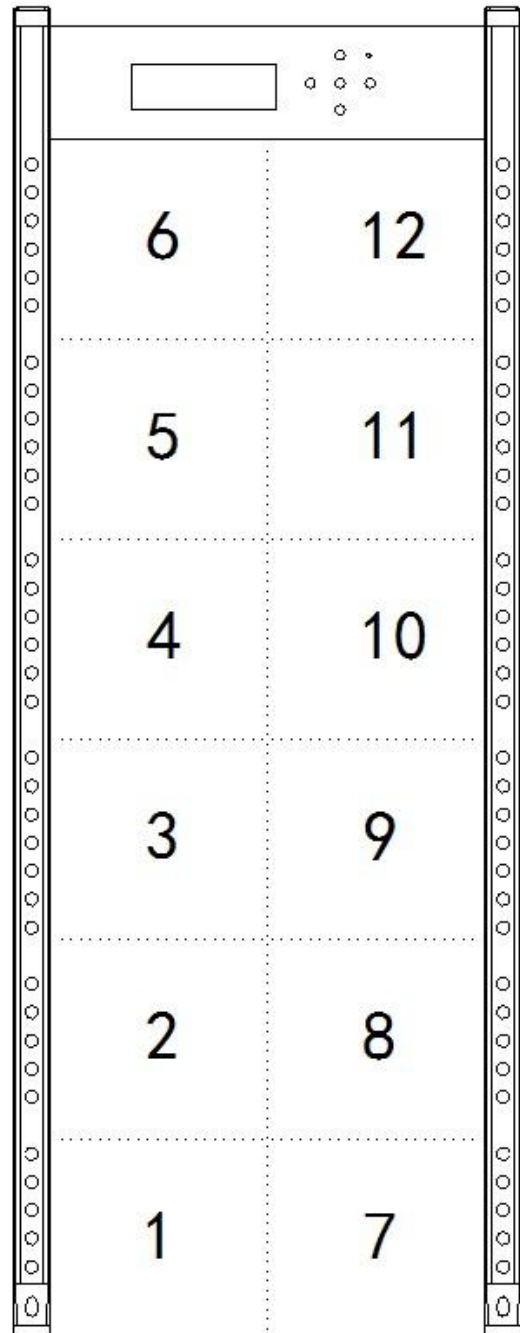
## Zone Description

### Alarm Zone Indicator

There are 12 groups of zones distributed in the left and right doors. When metal is detected, an LED will light up in the zone that the metal was detected in.

### Infrared Sensor

The infrared sensor can prevent false alarms when no one is passing through. If an alarm is triggered by someone passing through, they should be scanned with a hand wand.



## LCD Display Panel

FUNCTION	
1. SENSITIVITY	4.FREQ
2. ALARM	5.LANGUAGE
3. OCCASION	6.PASSWORD

1. Function main menu: 6 sub menus.

**Sensitivity:** There are 12 zones on the metal detector. The sensitivity for each zone may independently be adjusted in the range of 0-255 with larger numbers for higher sensitivity. The sensitivity for the 12 independent zones will be correspondingly changed while adjusting the integral sensitivity.

**Alarm:** The alarm can be set to trigger for 1, 2, or 3 seconds.

**Occasion:** Set the sensitivity level quickly.

**Frequency:** Working Frequency.

**Language:** Change language.

**Password:** The factory password is “000000”, which can be changed for preventing unwanted operation by non administrator.

## Operating Procedure

1. Press the ENT key to enter debugging interface, it will ask to enter the password, which is the factory password or the new password for previous operation.

INPUT PASSWORD

\*\*\*\*\*

2. Press the ENTER key again: if the password is correct, it will enter the main menu setting (A), otherwise, it will display (B) :

FUNCTION

1. SENSITIVITY

2. ALARM

3. OCCASION

4.FREQ

5.LANGUAGE

6.PASSWORD

A. Password correct

PASSWORD ERROR!

B. Password Incorrect

3. If the password is forgotten, you may enter the universal password 888888 by “LEFT and RIGHT” key ( for switching ) and new password through the “Password Change Setting” displayed in the main menu.

4. After entering the correct password and being redirected to the main menu, select “SENSITIVITY” by using the “LEF T and RIGHT” keys, then press the ENTER key to enter. Select the zone for adjustment by using the “LEF T and RIGHT” keys and change the sensitivity value with the “UP and DOWN” keys. When you select "13 TOTAL VAL-230", you can adjust the integral sensitivity. Press the ENTER key after changing.

ZONE SETTINGS

1 ZONE VAL - 230

2 ZONE VAL - 230

3 ZONE VAL - 230

ZONE SETTINGS

13 TOTAL VAL - 230

6. Select "ALARM" with the "LEFT and RIGHT" keys in "FUNCTION", and press the ENTER key to enter. Press the "Up and Down" keys to change the alarm time, and press the ENTER key after changing.

ALRM
ALARM TIME 01S

7. Select "OCCASION" with the "LEFT and RIGHT" keys in "FUNCTION", and press the ENTER key to enter. Press the "Up and Down" keys to change the working Location, and press the ENTER key after changing.

OCCASION	
1.AIRPORT	4.CASION
2.JUDICIARY	5.SCHOOL
3.GAMES	6.FACTORY

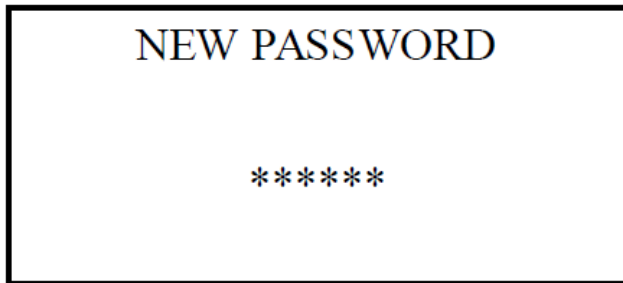
8. Select "FREQ" with the "LEFT and RIGHT" keys in "FUNCTION", and press the ENTER key to enter. Press the "Up and Down" keys to change the working frequency, and press the ENTER key after changing.

FREQUENCY
FREQUENCY: 4.00K

9. Select "LANGUAGE" with the "LEFT and RIGHT" keys in "FUNCTION", and press the ENTER key to enter. Press the "Up and Down" key to change the working frequency, and press the ENTER key after changing.

LANGUAGE
ENGLISH

10. Select "PASSWORD" with the "LEFT and RIGHT" keys in "FUNCTION". Directly change the cursor position with the "LEFT and RIGHT" keys and enter the new password by adjusting the numeral with the "UP and DOWN" key, then press the ENTER key.



### **Adjustment of Object Detection**

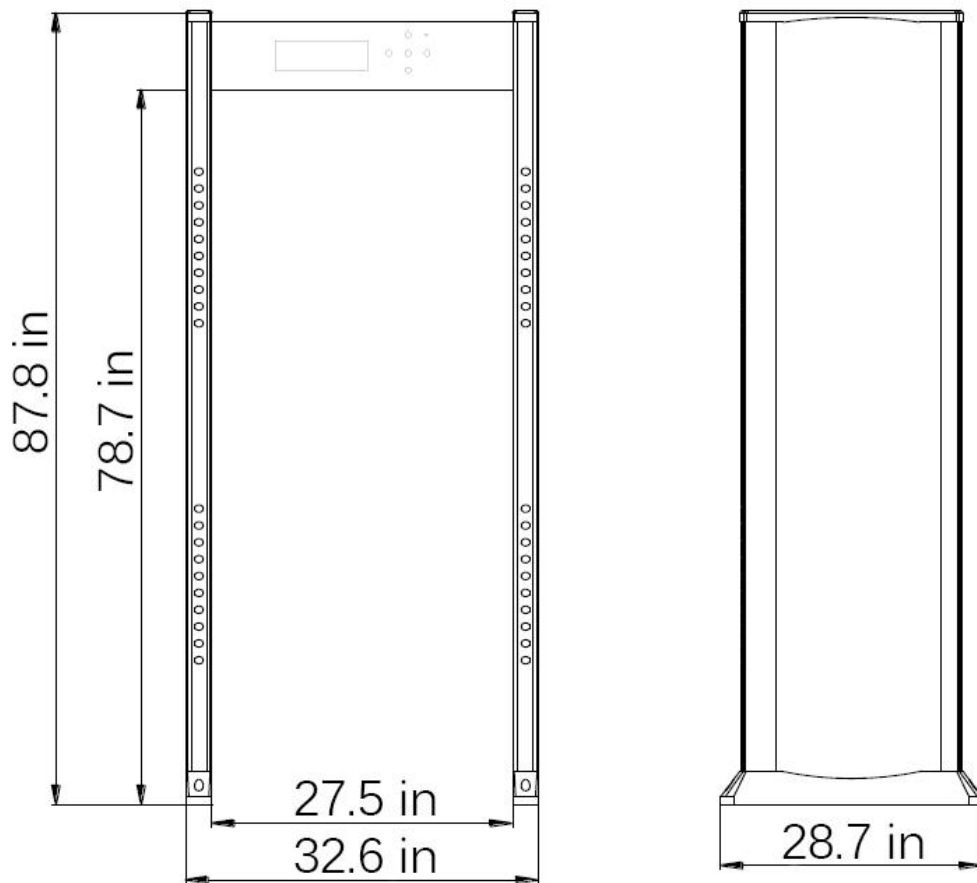
How to exclude the small objects while still detecting the big larger objects:

- 1.) Choose a small metal object that is about the size of the items you wish to exclude from detection, such as a key or ring.
- 2.) Turn up the sensitivity and pass through the unit with the sample and it will alarm.
- 3.) Turn down the sensitivity appropriately and pass through the unit with the sample. If it still alarms, turn down the sensitivity until it no longer detects the sample.

(Please remember, if the sensitivity of some zones need to be turned down, you only need to adjust the sensitivity for that zone, not the integral sensitivity)

After the adjustments have been made, this detector will not alarm when it has detected small metal objects but will detect the larger metal objects precisely.

## Technical Parameters



Input Power: AC 220V/50HZ~60HZ

Net Weight: 71kg

Power: < 20W

Working Environment: 0°C~45°C

Alarm: Visible and audible alarm

Sensitivity Adjustment: 0~255 grades sensitivity adjustment

Alleyway Size: 2000mm×700mm×605mm

Overall Size: 2230mm×830mm×730 mm

## **Factory Defaults**

Length of Alarm Time: 1 second

Sensitivity of Zone 1~12: 230

Total Sensitivity Value: 230

Password: 000000

## **Package Contents**

Power cord

8 sets of screws

Key for Head Unit

Manual