

# Walk-through Metal Detector

## User Manual

**NOTE:** Please Contact Us At 800-730-8382 For Inquiries Related To Your Interest In Placing A Bulk Order For Hospitals, Institutions, Schools, Government, Commercial Buildings, ETC.

**Disclaimer:** This detection device is not a medical device and cannot diagnose coronavirus infection. This product can identify individuals showing higher than average temperature relative to a sample population. Only a licensed medical professional can determine if a “hot” individual is experiencing an abnormal medical condition.

# Contents

【Note】 .....	2
【Introduction】 .....	2
【Appliance】 .....	3
【Function】 .....	3
【Environment】 .....	4
【Assembling & Mounting】 .....	4
【Control Panel】 .....	5
【Basic operation】 .....	6
【Function parameter setting】 .....	6
【Adjustment】 .....	6
【Trouble Shooting】 .....	7
【Connection graph of circuit boards】 .....	8
【Standard】 .....	8
【Specification】 .....	8

**【Test Report】** .....9

**【List of Items】** .....9

**【Warranty Card】** .....9

**【Disclaimer】** .....10

**Please make sure to read this manual carefully before start up this versatile electronic equipment.**

**【Note】**

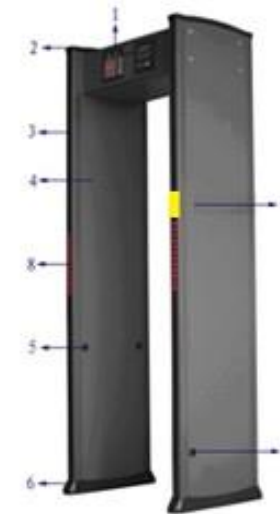


1. The walk-through metal detector (WTMD) can not be operated outside without weather shed.
2. Probe can not be fixed in hot/ humid environment.
3. Assemble your equipment on a horizontal and flat floor to avoid emitting false signal caused by rocked gate.
4. Distinguish the right side and left side panels, and confirm the plug of sensor will be plugged in the relevant marked place.
5. Finishing 1 minute of self-checking after starting up, the equipment achieves optimum efficiency.
6. Persons who walk through the machine should obey: internal time is above 1 second.
7. Do not knock the machine when operating, for avoid emitting false signal, even damage.
8. Use soft, damp clothing or dipped alcohol clothing to clean your equipment.

Always unplug your equipment during cleaning.

9. Inner has high-tension, unprofessional don't open it, avoid backfiring.
10. With Warranty Card, every machine will be free of maintenance under warranty.

**【Introduction】**



Stabilizer Base



Outlets+Power Cord



Outlets

- |                    |             |                   |                         |                   |
|--------------------|-------------|-------------------|-------------------------|-------------------|
| 1. Main Control    | 2.Top Cover | 3.AL Strip        | 4.Panels                | 5. Metal IR Probe |
| 6. Stabilizer Base | 7.Outlets   | 8.LED Zone Lights | 9. Temperature IR Probe |                   |

Walk Through Metal Detector (WTMD) is a kind of fixed appliance, used especially for finding the person who carries hidden metal objects. When a person walk through the WTMD, if the metal objects he carried are more than the setting level, the WTMD will alarm and show the alarm zone instantly.

This product also can be used to be temperature detection; it adopts the principle of non-contact infrared detection to screen the temperature of the detected personnel to prevent cross infection of various infectious viruses.

## 【Appliance】

- Applied in government, law-enforcing department: Public Security Bureau, Procuratorate, Court, Prison, Work camp, Jail, etc. for safety-check of metal contraband.
- Applied in public place: Gym, Place of entertainment, Airport, Customs, Exhibition hall, Museum, etc. for safety-check in entry.
- Applied in factory: Manufacturer of electronic product, hardware, mintage, jewelry, etc. for avoid losing valuables.
  - (Hand Held Metal Detector can be used as assistant equipment of safety-checking)

## 【Function】

1. **Exact positioning:** Multi-channel metal detector with 6/18 overlapping detection zones, each area can be alarm separately, totally 6/18 alarm location. The zones create a sequential sine-wave magnetic field within the detection area of the WTMD. With overlapping construction, sensitivity differences are minimized when metal objects of different shape pass through the WTMD in various orientations.

The product has a unique configuration of the transmit-receive coil. This provides double-side transmission and double-side reception performance. Then the equipment can position the detected object exactly and indicate the alarm position directly.
2. **Microprocessor technology:** Scanning speed of the electromagnetic wave

created by microcomputer control circuit can be controlled exactly. According to requirements, user can set program by using control panel, which makes sure that sensitivity setting is flexible, reliable and stable.

3. **Composite circuit layout:** The equipment has a counter that registers the number of persons passed through and the number of alarms. The counter uses Photoelectric Beam Detector, which can respond quickly and sends the identifiable signal to computer, then decreases the false alarms, the unwanted alarms and false counting.
4. **DSP technology:** The equipment uses digital signal processor to get reliable function of the metal detector, versatile features, and user friendly operation. In addition, this provides the best interference immunity.
5. **Adjustable sensitivity:** There is 300-step (0~299) adjustable sensitivity in each detecting zone, and user can define the sensitivity of each individual zone and system-level sensitivity according to application required.
6. **Password protection:** System password is 4 digital, which can be set by user. **ONLY** the password has been inputted correctly that user can change program, sensitivity and other parameters.
7. **Serial communication:** The equipment can connect to computer through the retained data communication interface.
8. **Modular design:** With modular design, the equipment is installed easily and user can remove the faults quickly.
9. **The best anti-impact performance:** The equipment has the best anti-impact performance under the condition that nobody passes through the WTMD.
10. **Electromagnetic sine wave field technology:** Transmitter sine-wave causes decaying eddy currents in metal objects inside the sensing area of the WTMD. The signal induces to the receiver by the eddy currents is sampled and processed in the electronics unit. The equipment is based on weak electromagnetic field technology, so its use according the instructions does **NOT**, pursuant to currently international safety standard, cause and health risks to pregnant women, persons with pacemaker, floppy disk, films and tapes

## 【Environment】

### 1. Motionless metal objects

Leave minimum 50cm between your WTMD and big metal objects. False alarm will be caused when WTMD be shake accidentally.

### 2. Not rigid or stable floor

Position and fix WTMD on a flat, stable floor. False alarms may be caused by shaking the equipment.

### 3. Movable metal objects

Leave minimum 1~2m between your WTMD and big movable metal object. False alarm will be caused when big metal object move at the nearby place. Especially Rolling grilles and closures, iron burglarproof door, folding reticulated iron gate.

### 4. EMR and EMI

Far from the EMR and EMI. Recommend distance is 1~2m

List of EMR and EMI as followed:

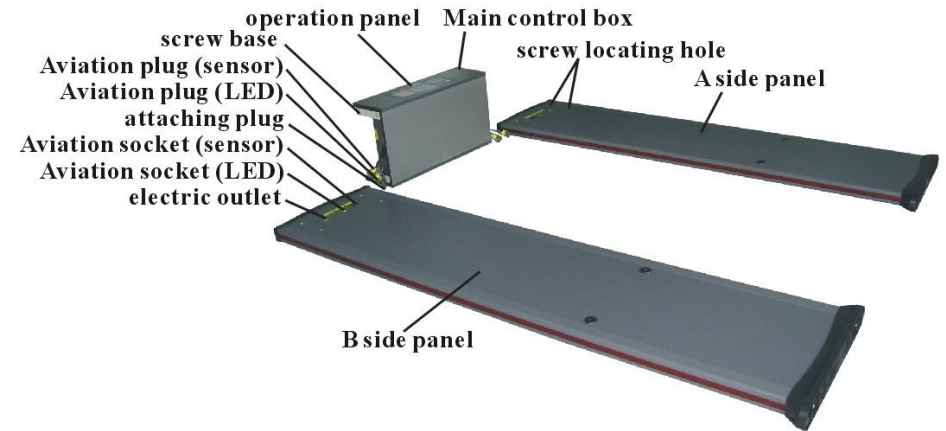
**electrical apparatus control system, radio frequency apparatus, computer utility and peripheral device, video monitor, high-power machine, high power transformer, AC power line, thyristor control circuit, high power switch, inverter welding machine, engine, motor machine, daylight lamp with rectifier**

### 5. Position WTMDs side by side

When posit WTMDs side by side, the device will be influenced each other to some extent. Please maintain the distance between every two devices not less than 50cm.

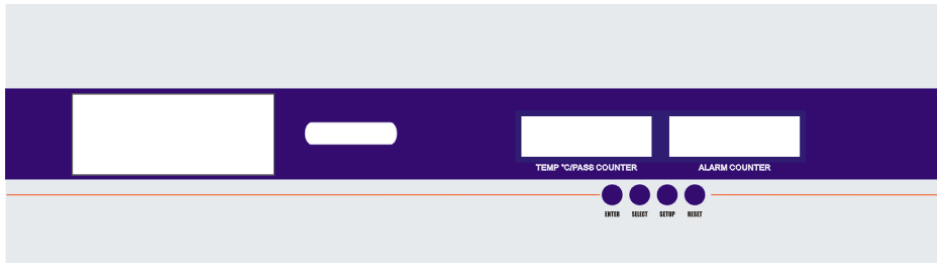
### 6. Do not fix the device in a high wind place, avoid emitting false signal.

## 【Assembling & Mounting】



1. Unpack the packages of Main Control and Left, Right Side Panel.
2. Arrange the major components as shown. Put Main Control unit faceup. Put the spare parts bag aside.
3. Left and Right Side Panel should be perpendicular to the main control unit. Use the key open the Main Control unit. Screw two side panels to Control Unit by 8 fixing screws and Allen Key.
4. Connect the aviation plugs in the main control box to the aviation sockets on the left detect panel and right detect panel.
5. Connect the power plug to the power supply socket on the either detect panel according to the specific position of power supply. Connect 220VAC operational power supply.

## 【Control Panel】



### 1. Indicators

(1). When the power is turned on, the right side of the screen shows the number of people and the number of alarm, the left side shows the standby lights and alarm indicator

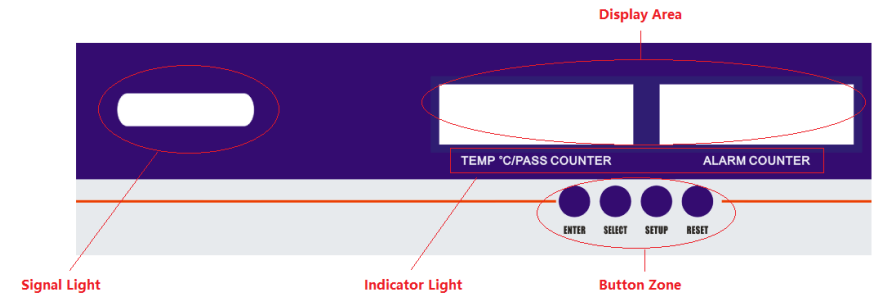
(2). The panel display in the standby indicator lights and alarm indicator, when there is no metal objects through, only one to two rows of red and green light; when a metal object through, all the red alarm light flashes, while the green standby indicator lights goes out and issue alarm sound

(3). Signal strength meter is to the right of alarm panel. Only one or two LEDs are lighted when no illicit metal object is passing through. If there are some illicit metal objects is passing through, all the red LEDs of the signal strength meter will flash, and the electronics sends out alarm.

The door has four location lights, it is divided into six districts according to the door from bottom to top, and it is divided into three districts from left to right, a total of 6/18 locations. Its role is to accurately show the metal objects to be detected in the corresponding position on the human body.

### 2. Digitron Display

It is a LED display. Simple, easy to operate.



### 3. Keyboard operation

#### (1) ENT

The ENT key has 3 functions in normal operation. (1) **Confirmation function**: After entering the power-on password on the main guide interface, press the ENT key to confirm the entry into the conventional setting interface; (2) **Save setting function**: modified menu or parameter saving; (3) **Switch function**. For example: when the user sets the sensitivity, switch the area where the sensitivity needs to be adjusted.

#### (2) SEL

The SEL key has 3 functions in normal operation. (1) **Switching function**. For example: the user switches the number when setting the password; switches the number when setting the tone; (2) **Adjustment function**; for example: when the user adjusts the sensitivity / temperature in the area, the user is given the function of upward adjustment ( ↑ ); (3) **To call up the frequency setting**, long press this button after guiding the main interface to call up the hidden frequency setting interface.

#### (3) ADJ

In normal operation, the ADJ key has 3 functions: (1) **Adjustment function**: when the user adjusts the sensitivity / frequency / temperature, the user is given the function of down adjustment ( ↓ ), which can be used Adjust the number; (2) **Enter the general setting interface**: Press this button on the main interface to call up the

hidden general setting interface; (3) **Call the high temperature setting interface**, long press the selection key in the main interface to call Hidden high temperature alarm setting interface.

#### **(4) RES**

In normal operation, the RES key has 2 functions in normal operation. (1) **Switching function:** In the shutdown state, press and hold the RES button for more than 1 second to start the system; in the startup state, press and hold the RES button for more than 3 seconds, then the system shuts down; (2) **Return function:** in the normal In the setting operation, press and hold the key for about 0.5s to return and reset, clear the alarm number and the number of people passing by.

## **【Basic operation】**

### **1. Power on**

In the shutdown state, long press the "RES" button for more than 1 second, the system boot, enter the main interface.

### **2. Power off**

In the power on, long press the "RES" button for more than 3 seconds, the system shuts down.

### **3. Reset**

Press the "RES" key for 0.5 seconds to 3 seconds in any interface, the system reset, the interface returns to the initial interface when the boot, and the number of alarm and pass number will be clear.

## **【Function parameter setting】**

### **1. Password Modify:**

1) Enter the correct password 1234 or Advanced Password 8888 Press the "ENT"

button and press "SEL" to enter the password modification menu.

2) Presss "ADJ" key to select the password number, "SEL" key to change the selected bit number, until the 4-digit password setting completely, press the "ENT" button 2 times, password modification is successful; enter the "sensitivity adjustment" menu.

### **2. Sensitivity Adjustment:**

Press "ENT" key to select the sensitivity position, "ADJ" key and "SEL" key to change the selected bit number.

**Note: the sensitivity is 0 ~ 299 adjustable, the greater the value, the higher the sensitivity of the region; the smaller the value, the lower the sensitivity of the area.**

### **3. Frequency Setting:**

Long Press the "SEL" key to enter the "frequency adjustment" interface, through the "SEL" key / "ADJ" key to adjust the frequency, press the "ENT" button to confirm.

### **4. Alarm temperature Setting:**

1) Long Press the "ADJ" key, the first line displays the temperature XX-X.  
2) Press the "SEL" key / "ADJ" key to adjust.  
3) Enter **【ENT】** key to confirm.

## **【Adjustment】**

**1. WTMD should be fixed in stable station. Distinguish way as followed:**

- 1) The installation location of the security door should meet the "installation environment" standard.
- 2) Turn on the WTMD. It is on the stable floor, and self-checking for 1 minute.
- 3) The device alarms when people walk through it with metal objects, such as: key. It does not alarm when people walk through without metal objects.
- 4) Combine above two points, the WTMD is in the stable situation.

**2. For avoiding influence from small metal objects, such as: ring, key, buckle, leather shoes, etc. Adjust as followed steps:**

- 1) Select a small metal object as a sample, such as: a bunch of keys.
- 2) Adjust sensitivity upward. Let one person carries the keys and walks through the WTMD, and the WTMD alarms.
- 3) Adjust the sensitivity downward properly. Let a person carries the keys and walks through the WTMD again. If the device still alarms, adjust the sensitivity downward again till the alarm just disappear.
- 4) Note: After above adjustment, the metal object which smaller than sample will not cause alarm and the metal object which bigger than sample will cause alarm.

**3. Rules:**

- 1) People stand in line and walk through the gate one by one. The distance of the first people from the gate is 50 centimeter.
- 2) Before walking through the gate, put metal objects, such as: key, mobile phone, cigarette, coins on the desk, then walk through it. After checking, carry back all objects.
- 3) People walk through the gate one by one. Don't press, rish and amble. Don't knock the gate.
- 4) If there is alarm, after the alarm finished, the next people can walk through the gate.
- 5) If there is alarm, means the people who walk through the gate carried metal objects. For pointing the hidden place, you can use Hand Held Metal Detector to scan the alarm zone of the body.

- 6) Some special occasions need ladies do not wear ornaments, such as: grips, rings, necklaces, belts, bracelets, jeans (which have metal button), and so on. (Note: Some companies can provide working clothes to laborers. The working clothes without metal objects)

## 【 Trouble Shooting 】

**1. The IR can not count**

- 1) Find out whether the left and right gate panel be fixed on wrong side.
- 2) If transmitting or receiving terminal of IR module is abnormal, pls. check the infrared-emitting diode and infrared-receiving diode, to find out whether they are burnt out or poor contact. Or to find out whether the line is connected. And pls. confirm you have plugged the Aviation plug properly.

**2. Wrong alarming frequently**

- 1) If the wrong alarm occurs frequently. Pls. check the environment. Leave minimum 1.5m between your WTMD and big metal objects. Also, pls. avoid strong wind. We suggest to adopt draught-proofing device, or replace installation site where has no strong wind.
- 2) If the wrong alarm is not due to bad environment, pls. lower sensitivity of every zone. If the wrong alarm still occurs frequently, pls. try followed steps.
  - a) Find out whether the voltage is normal. The normal working voltage is 110~240V. If less than 110V, the wrong alarm will occur. Method: suggest buying an adjustable positive booster or an UPS backup power.
  - b) If the voltage is normal, pls. change the oscillator frequency.
  - c) If there is still problem of wrong alarming, we suggest replacing the installation site.

**3. System cannot start up**

- 1) Please find out whether the voltage is normal. If voltage is lower than 90V, we suggest buying an adjustable positive booster.

- 2) If the voltage is normal, pls. check the input end of transformer, if find out the voltage is not 90V; pls. check the protective tube to find out whether it is burnt out.

If the voltage is 220V, pls. check the small transformer to find out whether the voltage of output end is 6V.

If the voltage is 6V, pls. check the voltage which be supplied to the Main Board, to find out whether it is 5V. Then to check the voltage which be supplied to the Power Board.

#### **4. Counting, no alarming**

- 1) Try to change the oscillator frequency.
- 2) If it still hasn't alarm, pls. use the multimeter to check the volts D.C. of Power Board, to find out whether there are +8V, -8V and +12V.
- 3) If the volt D.C. is normal, pls. use the multimeter to check the big transformer output AC, to find out whether it is 13V.
- 4) If it is 13V, means it is normal, then, pls. use the multimeter to check voltage of finger 1 of the U12 (TL062) on the Main Board, the normal volts D.C. is +0.7~0.9V.

#### **5. Different temperature difference from different people**

It is related to the environment, especially when a person has just entered the room from the outside, the skin temperature is affected by the outdoor temperature, which is different from the standard body temperature.

There is water or sweat on the forehead, because the water or sweat is in the evaporation state, which will reduce the epidermal temperature.

### **【Standard】**

Conformity with active National Standard GB15210-2003

### **【Specification】**

Power Supply: 100V ~ 240V 60/50Hz

Actual Power Dissipation: < 10W

Ambient Temperature: -20°C ~ 45°C

Relative Humidity: < 100% no condensation

Packed Weight: about 90kg

Outer Frame: (H)2220MM\* (W)820MM\* (D)580MM

Inner Frame: (H)2000MM\* (W)700MM\* (D)450MM

Packing Size: (L)2280MM\* (W)620MM\* (H)215MM

(L)756MM\* (W)255MM\* (H)471MM



## 【Test Report】

Product Name	Walk Through Metal Detector	Model NO.		Serial NO.	
Date of Survey		Checking Equipment	Multimeter; Oscillograph	Ageing Time	48h
<b>Functional Check:</b>					
1、Infrared	OK	4、Alarm	OK		
2、Power Switch	OK	5、Keypress	OK		
3、Display	OK	6、Appearance	OK		
<b>Sensitivity Check:</b>					
System Lever Zone Sensitivity	10	30	60		
1 <sup>st</sup> Zone	295	260	250		
2 <sup>nd</sup> Zone	295	260	250		
3 <sup>rd</sup> Zone	295	260	250		
4 <sup>th</sup> Zone	295	260	250		
5 <sup>th</sup> Zone	295	260	250		
6 <sup>th</sup> Zone	295	260	250		
Object	φ30mmSteel Ball	φ40mmSteel Ball	φ50mmSteel Ball		
Packing	OK	Product	OK		

Verify:

Checker:

## 【List of Items】

User Manual	( )	8 pcs of Screw	( )
Power Cord	( )	4 pcs Fixing Screw	( )
5mm Allen Key	( )	1 pcs Remote Controller	( )
Test Controller:		Quality Inspector:	

## 【Warranty Card】

1. Always keep your Warranty Card in a safe place. Show the Warranty Card when product needs to be fixed.
2. Without seal and signature of agent, the warranty card is null and void.
3. The warranty card without the details is null and void. Please confirm the details are full and accurate, and provide to the agent so that we can supply service to you.
4. Do not supply the card again if it missing

### Warranty Card

Model NO.		Serial NO.	
Purchase Date		Telephone	
Contact Person		Fax	
Company Name			
Address			

## Maintenance Record

Date	Content	Serviceman

### 【Disclaimer】

1. The manual be aimed at accuracy.

Our firm has no guarantee for the manual without any missing content or wrong explain.

2. Alterations reserved
3. All the rights reserved

**NOTE:** Please Contact Us At 800-730-8382 For Inquiries Related To Your Interest In Placing A Bulk Order For Hospitals, Institutions, Schools, Government, Commercial Buildings, ETC.

**Disclaimer:** This detection device is not a medical device and cannot diagnose coronavirus infection. This product can identify individuals showing higher than average temperature relative to a sample population. Only a licensed medical professional can determine if a “hot” individual is experiencing an abnormal medical condition.