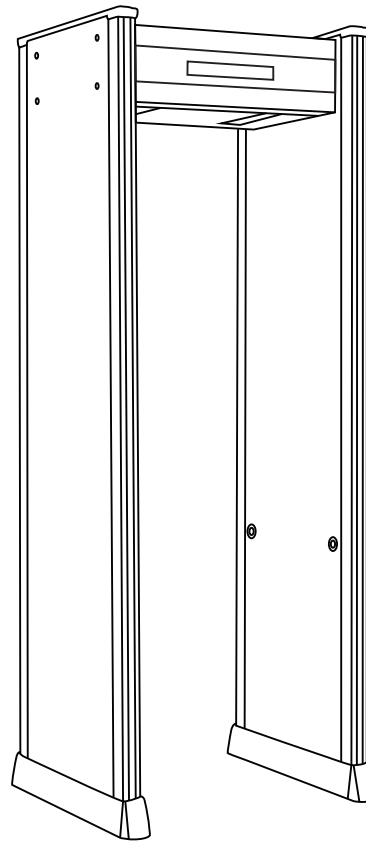
Walk-through Metal Detector

User's Manual



[Contents]

Note: Please carefully read the contents of this Manual before operation.

[Notes]

I. The Walk-through Metal Detector (WTMD) should not be installed in a high-temperature and humid environment.

II. The Walk-through Metal Detector (WTMD) should be installed on flat ground without vibration, to prevent false alarm due to its vibration.

III. The Walk-through Metal Detector (WTMD) can produce the best detection performance after it has been started up and self-tested for 1 minute.

IV. The people being checked should strictly follow the set standby or alarm time (above 1 second) when passing through the security door; they should pass through the security door one by one and not gather around the security door, to avoid interference with infrared sensor.

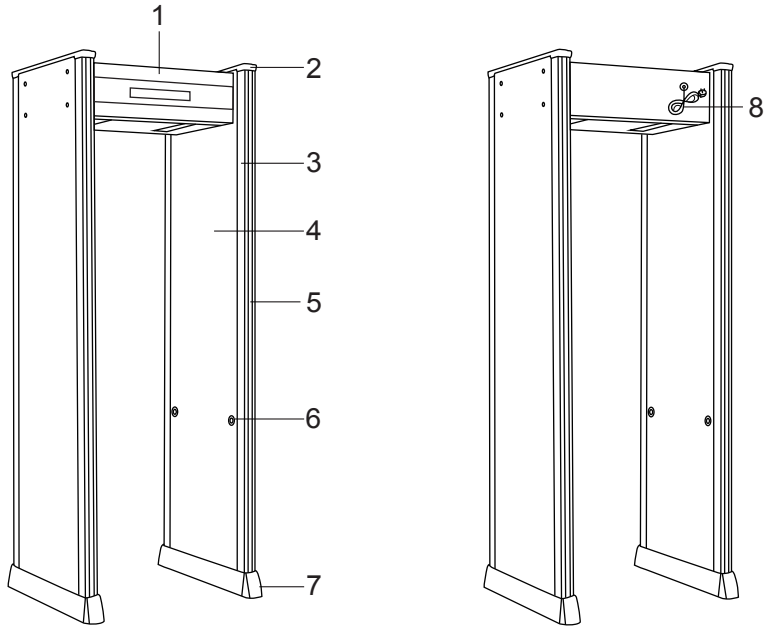
V. Do not knock or collide the equipment during the inspection process, so as to prevent the Walk-through metal detector (WTMD) from giving an false alarm and even resulting in damage.

VI. If there is dust, gently wipe the door using a cloth dipped with water or alcohol, do not wash it directly with water or other chemical solvent.

VII. As there is a high voltage in the door, non-professionals are not allowed to open it, to prevent other man-made accidents.

VIII. The Walk-through Metal Detector (WTMD) is accompanied with a warranty card, and free repair service is available within the warranty period with warranty bill.

[Product Introduction]



1. Main case **2**. Top cover **3**. Aluminum strip and lampshade **4**. Door panel
5. LED Light Bar **6**. Infrared Sensor **7**. Stabilizer Base **8**. Power cable

Stabilizer Base

Infrared Sensor

Remote controller + key

The Walk-through Metal Detector (WTMD) is a kind of detection equipment installed in a fixed way. It is also known as metal detection security door and referred to as security door, and mainly used to check the metal objects hidden at human body. When the people being inspected pass through the security door and the metal on human body exceeds the pre-set parameters, the security door will immediately give an alarm and display the alarm location, so that security personnel are able to timely find the prohibited metal objects at human body.

As one of the products with the highest technical contents in China, our products feature faster response, more accurate detection, higher sensitivity and stronger anti-interference, so they are able to meet the needs of all industry users.

[Application Places]

I. **It is applicable to government law enforcement departments:** the security inspection of prohibited metal objects at public security, prosecutors, adjudication division of courts, prisons, labor camps, detention centers and other venues.

II. **It is applicable to social public places:** security inspection at the entrances of sports venues, entertainment venues, airports, customs, exhibition halls, museums and other public places.

III. **It is applicable to production-oriented enterprises:** security inspection for preventing the loss of valuables at electronics, hardware, coinage, jewelry and other production-oriented enterprises.

(Handheld metal detector can be used on all of the above occasions, so it is the auxiliary inspection equipment necessary for security personnel.)

[Performance and Characteristics]

I. **Rain-proof design:** This security door is able to normally work in the open air (rain), without shelter.

II. **Free zone division:** It can be divided into 6 zones, 12 zones and 18 zones.

III. **Accurate positioning:** Featuring the division of six overlapping mesh detection areas, bilateral emission and reception, it is able to accurately locate the object being detected and visually display the position of target object.

IV. **Multi-zone alarm:** It is able to locate multiple metal positions simultaneously.

V. **Microprocessor technology:**Microcomputer controls circuit to generate the scanned electromagnetic waves, and the scanning speed can be precisely controlled. Program setting is made according to the needs through control panel, to ensure the flexibility, reliability and stability of sensitivity setting.

VI. **Composite circuit design:** With scattered infrared devices, fast response and computer automatic identification, it is able to reduce false alarms and failures in alarm, and automatically count the number of alarms and number of passing people.

VII. **Two counting modes:** The methods for calculating the number of passing people are flexible and diverse, applicable to a variety of places.

VIII. **Digital pulse technology:** It has digital signal processing filter system and excellent anti-electromagnetic interference.

IX. **Copper detection mode:** It is able to detect copper (aluminum, lead and other non-ferromagnetic substances), applicable to some specific circumstances.

X. **Adjustable sensitivity:** Each detection location has 2000 sensitivity level (0 -1999), it is able to adjust the location to the appropriate sensitivity according to detection requirements (the larger the set sensitivity value is, the higher the sensitivity is), and the overall sensitivity is the simultaneous of six zones.

XI. **Password protection settings:**Only after the correct password is entered, the program and sensitivity and other parameter settings can be modified; the password has six digits and it can be set by the user (Note: the password of system settings cannot be modified.)

XII. **Serial port communication:** With reserved data communication interface, it can be connected with the computer.

XIII. **Modular design:** With modular design, the installation is convenient and easy for trouble shooting.

XIV. **Strong impact-resistance technology:** It has a strong impact and collision resistance when no person is passing through; it is able to normally work after standby without suffering the influence of external factors.

XV. **Magnetic field emission technology:** The product meet the requirement of current international safety standards, and weak magnetic field technology is used, so it is harmless to the patients with cardiac pacemaker, pregnant women, floppy disks, film, video tapes and so on.

[Installation Environment]

I. Stationary metal objects

When installing the security door, keep it at least 50cm away from stationary or fixed bulk metal objects; otherwise, accidental alarm may be caused.

II. Movable metal objects

Movable large metal objects should be 1-2m away from the security door, to avoid false alarm. Especially when installing security door at the gate of factory and bottom of building, it is required to pay attention to the influence of rolling gate, iron anti-theft door and meshed metal gate on security door. The larger the area of metal object is, the farther the distance from security door to it should be.

III. Floor vibration

The floor should be flat and solid, so as to prevent security door from vibrating due to the movement of people or metal objects and thus resulting in unnecessary false alarm.

IV. Electromagnetic radiation and interference

As bilateral transceiver technology is employed for the security door, no source of electromagnetic interference and electromagnetic radiation shall be close to any side of the security door, and the recommended distance is 1-2m.

Various possible electromagnetic interference and radiation sources are listed as follows:

Electrical control box, radio frequency equipment, electronic computer and peripheral devices, video monitors, high-power motors, high-power transformers, AC power wires, thyristor control circuit (high-power switching power supply, inverter welding machine), engine, machine with motor, fluorescent lamp with the old electronic ballast.

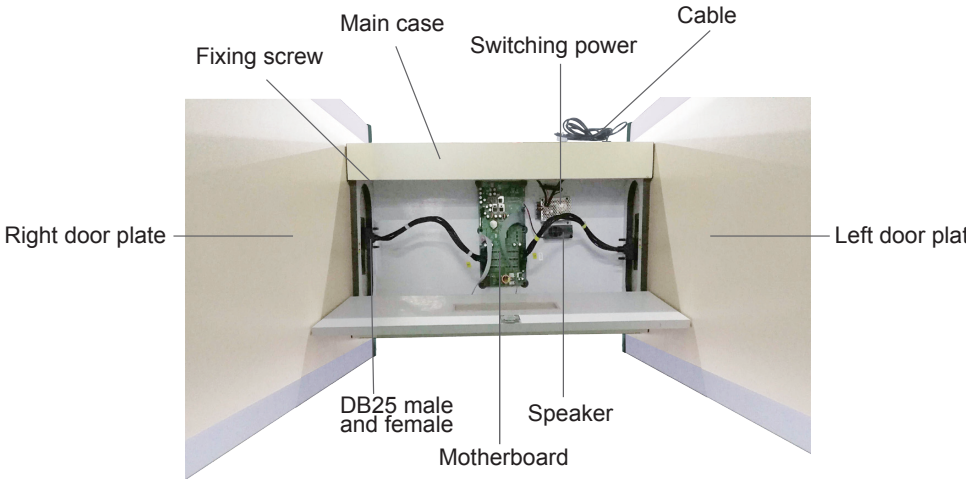
V. Precautions when using multiple series of security doors side by side

When using more than one security door side by side, they will have a certain degree of influence on each other, and the degree of influence is related to the distance between security doors and selected working frequency; when installing more than one security doors, it is required to enable automatic frequency setting function and start them one by one in order, avoid the duplication of frequency, and ensure that the distance between security doors is not less than 50cm.

VI. Security door cannot be installed at the position with strong wind

The Walk-through Metal Detector (WTMD) may slightly swing when the wind blows, and thus false alarm may be caused during inspection.

[Installation Instructions]



I. Installation guidance

1. Remove the packaging of main case and door panels.
2. Place the main case panel upside down, place left and right door panel (as shown in the figure), and put the accessory box next to it.
3. Make the left and right door panels vertically close to the main chassis, connect them using the eight retaining screws in the accessory box and tighten them using hexagonal socket screws.
4. Respectively insert DB25 plugs of main case into DB25 sockets corresponding to left and right doors panel.

II. Operation instructions

1. After the security door is installed, press and hold Key "A" of the remote controller in the accessory box for startup, until the panel of the main case is turned on;
2. The security door will conduct self-detection upon startup, while startup, the contents displayed on the panel will keep changing, When both the count numbers of passing people and alarms are "0" and the contents displayed at the panel stops changing, indicating that startup completed.

Note: Security doors may be customized according to the environment and need, and the specific methods comply with "operation instructions".

[Display Description]

I. Panel description

Display screen is on the left of panel, and blue backlit LCD display screen is used. In normal standby mode, it will display the number of passing people, the number of alarms and time and date; lamp board is at the right panel, and lamps are divided into standby indicator, alarm indicator and intensity indicator.

II. LED lamp description

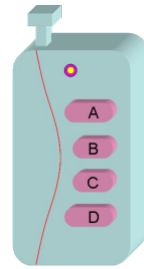
1. The first vertical row of lamps at lamp board of panel are standby indicators and they are green; the second vertical row of lamps are alarm indicators and the rest of lamps are alarm intensity indicators, and they are red.
2. After the equipment is powered on, when there is no metal object passing through the security door, the green indicator will be on; when there is metal object passing through the security door, the green indicator will be off, and the red indicator will be on; meanwhile, the red alarm intensity indicator will be on and give an alarm sound; the greater the passing metal is, the more alarm intensity indicators will be on.

III. Description of door panel zone indicator

1. Door panel is divided into 6 zones (Zone 1- Zone 6) from bottom to top by door body, to accurately display the location of the metal object being detected.
2. Door panel edge indicator is door panel zone indicator(LED light bar). When a metal object is passing through the door, the door panel zone indicator will be on, and the area where the indicator is on is the position where the metal is.

[Operation Instructions]

I. Remote controller description:



A - "Power "
B - "Select"
C - "Adjust"
D - "Enter"

1. **Key A "Power" has two functions in actual operation:**
   (1) Startup / shutdown function: the system will be started up after user has pressed and held this key for more than 1 second at shutdown state, and the system will be shut down after user has pressed and held this key for 3 seconds at running state.
   (2) Resetting function: the system will be reset after user has pressed this key for 0.5-3 seconds at any interface.

2. **Key B "Select" has one function in actual operation:**
   Selection function: user can switch and select the menu or the number of digits, and combine with Key "C" into the selection key.

3. **Key C "Adjust" has two functions in actual operation:**
   (1) Value change function: user can amend the numbers in password setting menu.
   (2) Selection function: user can switch and select the menu, and combine with Key "B" into the selection key.

4. **Key D "Enter" has three functions in actual operation:**
   (1) Confirmation function: user can confirm to enter the selected menu, and go into the password entering interface of secondary interface by pressing this key at the main interface upon startup.
   (2) Saving setting function: user can save the amended menu or parameters.
   (3) Value changing function: when setting sensitivity and alarm, user can amend the numbers.

II. Basic operation

1. **Startup:** In the shutdown state, the system will be started up after user has pressed and held Key "A" for more than 1 second. During the startup process, the system will conduct signal self-test, "√" will be displayed when it has passed the test, "×" will be displayed when it failed to pass the test. After completing the test and setting the frequency properly, the system will go into the main interface, as shown in Fig. 1.

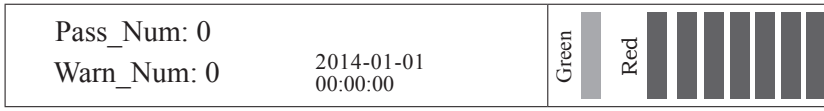


Fig. 1

2. **Shutdown:** In the startup state, the bell will ring after user has pressed and held Key "A" for more than 3 seconds, and the system will be shut down.

3. **Resetting:** In the working state, after user has pressed Key "A" for 0.5-3 seconds, the system will be reset and go back to the initial interface when startup, and the number of alarms and the number of passing people will be cleared.
4. **Viewing program version number:** Program version number will be displayed at the screen after pressing Key "B" for successive two times at the main interface, as shown in Fig. 2. Go to the main interface after pressing Key "B" again.

Fig. 2

III. Functional parameter setting

Security door parameters can be set according to needs. However, in order to prevent unauthorized personnel from changing them without approval, parameter setting is provided with password protection, and duplicate protection is set up for important parameters.

Go into password entering interface by pressing Key "D" on the main interface, as shown in Fig. 3.

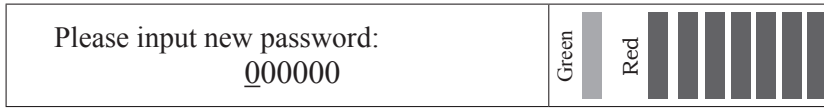


Fig. 3

1. Password description

(1) On this interface, press Key "B" to switch the digits; press Key "C" to amend the selected digits, and press Key "D" to confirm after completing inputting the password; if no operation has been conducted for more than 10 seconds in password entering interface, the system will automatically go into the main interface; if the entered password is incorrect, system will prompt users to enter the password again after user pressed Key "D"; if the entered password is correct, the system will go into the parameter setting interface, as shown in Fig. 4.

(2) The initial password of parameter setting is "000000", users may change them after entering parameter setting interface; the system has a universal password "612184", and users may enter using this password when they forget their own passwords.

(3) When system setting is important parameter setting, users may enter the systemsetting interface after entering password "654321", and this password cannot be changed.

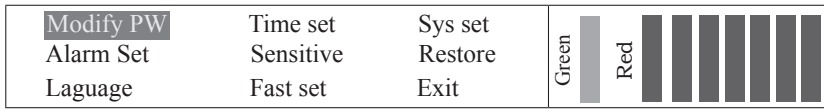


Fig. 4

2. Password change

(1) Select "Modify PW" on the parameter setting interface for confirmation, and enter password change interface, as shown in Fig. 5.

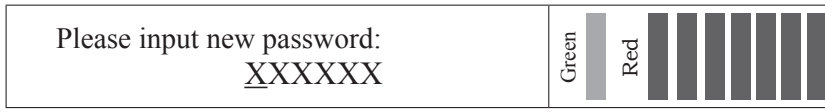


Fig. 5

(2) Press Key “B” to select the digits of password, and then press Key “C” to change the number at digit, and press Key “D” for confirmation after setting the password properly. The password is changed successfully after being entered twice consistently.

3. Alarm setting

(1) Select “Alarm set” on parameter setting interface for confirmation, and then go into alarm setting interface, as shown in Fig.6.

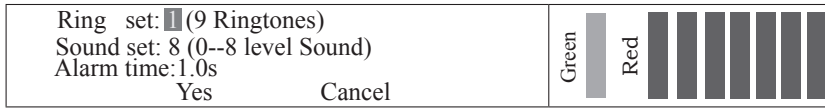


Fig. 6

(2) Alarm setting includes “Ring set”, “Sound set” and “Alarm time”. Key “B” is used to move up for selection, Key “C” is used to move down for selection, Key “D” is used to change the selected item. Alarm time is adjusted by taking 0.5s as one step. After changing parameters, select “Yes” and press Key “D” to save the change, select “Cancel” and press Key “D” to directly exit the interface, and the changed parameters will not be saved.

4. Language selection

Select “Language ” on parameter setting interface for confirmation to go into language setting interface, as shown in Fig. 7. After the user pressed Key “B” or “C” to switch language and Key “D” to change and save, the interface will go back to the previous menu.

Fig. 7

5. Time setting

(1) Select “Time set” on parameter setting interface for confirmation, and go into time setting interface, as shown in Fig. 8.

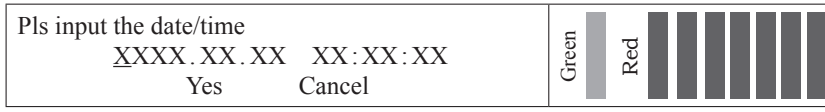


Fig. 8

(2) Press Key “B” or “C” on time setting interface for selecting the digits of date and time, press Key “D” for change, the interface will go back to the previous level after selecting “Yes” and pressing Key “D” for saving after change; the changed parameters will not be saved after selecting “Cancel” and pressing Key “D”.

6. Sensitivity setting

Select "Sensitive" and confirm on parameter setting interface and go into sensitivity setting interface, as shown in Fig. 9. Press Key "B" to select zone, press Key "C" to select sensitivity digits in the zone, and press Key "D" to change the sensitivity value.

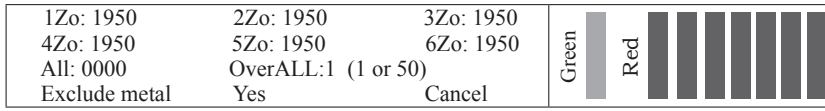


Fig. 9

(1) Sensitivity setting function may be used to set the sensitivities from Zones I to VI respectively, or set them as the same value quickly. The sensitivities from Zones I to VI may be set quickly by changing "All" values to non-zero; for example, after setting "All" items as 1000 and saving the setting, the sensitivities from Zones I to VI will be set as 1000 at a time.

(2) "Overall" refers to all zones, and "1 time" or "50 times" may be selected. When selecting "1 time", the sensitivity is not changed and it is consistent with the set sensitivity value; when selecting "50 times", the sensitivity is reduced by 50 times.

(3) After completing adjusting the sensitivity, if the user selects "Yes" and press Key "D" for confirmation, the system will set saving interface and return to the previous menu; if the user selects "Cancel" for confirmation, the set parameters will not be saved.

Note: Sensitivity is adjustable between Levels 0-1999, the greater the value is, the higher the sensitivity is; the greater the sensitivity multiple is, the lower the sensitivity is.

7. Excluding small metal objects

On sensitivity setting interface, select "Exclude metal" and press Key "D" to gointo the setting interface for excluding small metal objects, as shown in Fig. 10.

Fig. 10

The function of "Exclude metal" is used to exclude keys, buckles or mobile phones or other metal objects, and set specified zones. After setting, the system will not give an alarm when the metal objects to be excluded are passing through the security door, and the system will give an alarm when the metal objects which are greater than the ones to be excluded.

"All zone": Set the sensitivities of all zones as the preset value for excluding small metal objects.

"Special zone": Set the sensitivities of the zones where metal objects pass through as the preset value for excluding small metal objects.

Press Key "D" for confirmation after setting, and pass through the security door with the metal objects to be excluded according to the prompts (2 times or 3 times, 3 times for large metal objects), go back to the previous menu interface after

completing system processing.
After the interface goes back to the previous menu, select “Yes” and press Key “D” for confirming to save the setting; select “Cancel” and press Key “D” for not saving the setting.

8. Fast set

Select “Fast set” on parameter setting interface for confirmation and go into quick setting interface, as shown in Fig. 11.

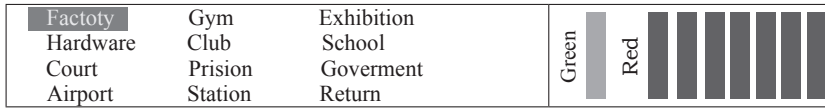


Fig. 11

(1) There are 11 kinds of special places for selection in quick setting, corresponding parameters are preset for the environment as reference, and it is able to quickly set the required sensitivity.

(2) Select the required places in quick setting and press Key “D” for confirmation, the interface will directly go back to the previous menu interface; the set parameters will not be changed if “Return” is directly selected for confirmation.

9. Restore factory settings

Select “Factory setting” on parameter setting interface for confirmation, and go into sensitivity setting interface, as shown in Fig. 12. Press Key “B” or “C” to select “Yes” or “No”. If the user selects “Yes” and press key “D”, the system will restore factory settings and go back to the interface in Fig.1; if the user selects “No” and press Key “D”, the system will not restore factory settings and it will go back to the interface in Fig.4.

Fig. 12

IV. System parameter setting

The function of system setting is used to set some important parameters, and user can enter the interface after entering the password “654321”, as shown in Fig. 13.

Fig. 13

1. Mode Set

There are 6 working modes for selection, as shown in Fig. 14. Each mode will take into effect immediately after being selected, but the user should select “Save” and confirm, so that the setting is saved in the system, and the set contents will be valid upon startup next time; if the user selects “Return” or directly quit the interface, the set contents will be only valid this time, and the system will be restored to the settings before change upon startup next time.

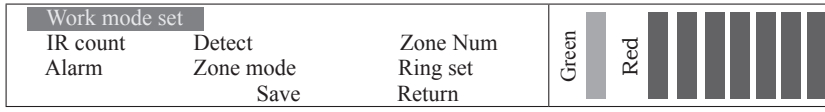


Fig 14

(1) Infrared sensor counting setting.

Select “IR count” for confirmation in working mode, and enter infrared counting setting interface, as shown in Fig. 15.

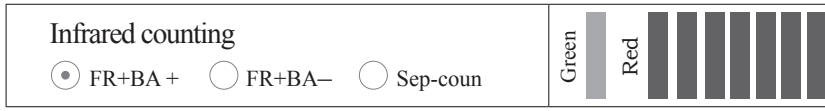


Fig 15

“FR+BA +”: when people are passing through the security door from front to back or front back to front, count the number of passing people plus 1.

“FR+BA–”: when people are passing through the security door from front to back, count the number of passing people plus 1; when people are passing through the security door from back to front, count the number of passing people minus 1; when the number of people passing the security door from back to front is the same as the number of people passing the security door from front to back, “0” is displayed; when the number of people passing the security door from back to front is greater than the number of people passing the security door from front to back, a negative number is displayed.

“Sep-coun”: Respectively count the people passing the security door from front to back and the people passing the security door from back to front.

(2) Alarm mode setting

Select “Alarm” on working mode setting interface and confirm it to go into alarm mode setting interface, as shown in Fig.

Fig 16

“Pass IR”: when the amount of metal exceeds the sensitivity testing standards objects are passing through the infrared and there is infrared counting, the system will give an alarm.

“No pass IR”: as long as the amount of metal exceeds the sensitivity testing standards, the system will give an alarm, without the need for infrared counting.

(3) Detection mode setting

Select “Detect” on working mode setting interface and confirm it to enter detection mode setting interface, as shown in Fig17.

Fig 17

"All metal": when any metal is passing through the security door, the system will give an alarm if the amount of metal exceeds the sensitivity testing standards.
"FM": when ferromagnetic metal is passing through the security door, the system will give an alarm if the amount of metal exceeds the sensitivity testing standards; when non-ferromagnetic metal is passing through the security door, the system will not give an alarm.
"AFM": when non-ferromagnetic metal is passing through the security door, the system will give an alarm if the amount of metal exceeds the sensitivity testing standards; when ferromagnetic metal is passing through the security door, the system will not give an alarm.

.

(4) Alarm zone setting
Select "zone set" on work mode setting interface and confirm it to enter alarm zone setting interface, as shown in Fig. 18.

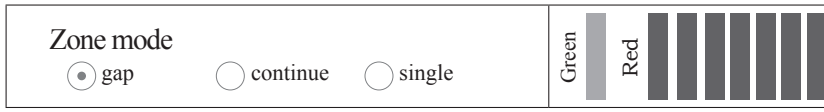


Fig 18

"gap": alarm zones (six zones from bottom to top) should not be adjacent. For example, when there is an alarm in Zone III, there should be no alarm in Zones II and IV, but there may be alarms in Zones I, V and VI.
"continue": there may be alarms in each zone.
"single": there should be alarms only in one zone at most. For example, when there is an alarm in Zone III, there should be no alarms in other zones.

Note: Interval alarm and single-zone alarm are able to reduce the mutual interference between the adjacent zones.

(5) Door zone division
Select "Zone Num" on working mode setting interface and confirm it to enter door zone division setting interface, as shown in Fig. 19.

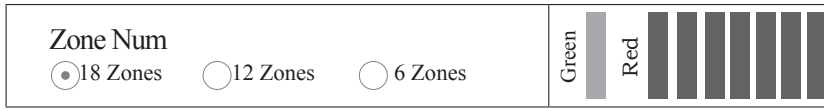


Fig 19

Door zone division is to divide the channel into 6 zones (Zones 1-6) from bottom to top, and each zone is subdivided into 3 zones (totally 18 zones), 2 zones (totally 12 zones) or not subdivided (totally 6 zones) in the horizontal direction.

"18 Zones": when metal is close to the left channel, the left door post indicator will be on;when metal is close to the right channel, the right door post indicator

will be on; when metal is passing through the security from the middle of channel, the left and right door post indicators will be on simultaneously.
"12 Zones": when metal is close to the left channel, the left door post indicator will be on; when metal is close to the right channel, the right door post indicator will be on.
"6 Zones": when metal is passing through the security door from any position of channel, the left and right door post indicators will be on simultaneously.

(6) Ring setting mode
Select "Ring set" on working mode setting interface and confirm it to enter ring setting interface, as shown in Fig. 20. This setting can work only after enabling the function of automatically setting frequency upon startup; otherwise, system alarm ring is "set by the value saved".

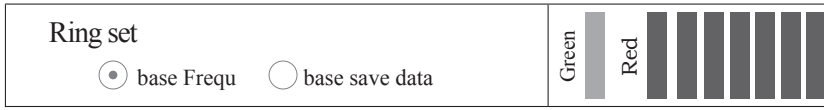


Fig 20

"base Frequ": set the ring according to the frequency set by the system automatically upon startup. One kind of alarm ring is set for one typical frequency, and alarm ring will be replaced after the frequency is replaced.
"base save data": set the ring according to "Ring Set" in "Alarm Set" menu, regardless of frequency.

2. Filtering mode setting
Select "Set Filtering mode" on system setting interface and confirm it to enter filtering setting interface, as shown in Fig. 21.

Fig 21
"BPF": filter out high-frequency and low-frequency interference.
"HPF": filter out the interference of low-frequency drift.
"LPF": filter out high-frequency interference.
"No-filter": do not filter original data.

Note: The filtering mode can filter out interference and reduce the false alarmrate, but after filtering there may be a certain delay in signal and alarm; the effect of BPF is the best, but the delay is the longest; this function is based on the surrounding environment, if the interference is small, filter is not required; when more than one (above 4) door is working simultaneously, there will be some interference between each other, and thus accidental alarm may be caused, and they can be set to filtering mode.

3. Frequency setting
Select "Frequency " on system setting interface and confirm it to enter frequency setting interface, as shown in Fig. 22.

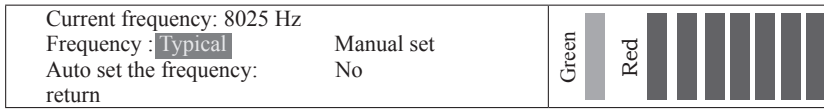


Fig 22

"Current frequency": It displays the current working frequency of system.
"Frequency ": It is able to set the working frequency of system, including "typical frequency" and "manual frequency".

(1) Typical frequency: as shown in Fig. 23.

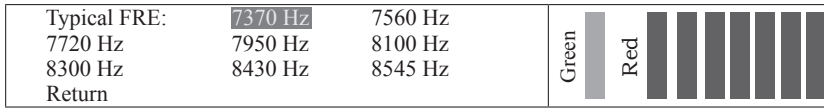


Fig 23

"Typical frequency": It is frequency value selected after testing, and frequency may be quickly and conveniently set.

(2) Manual set: as shown in Fig. 24.

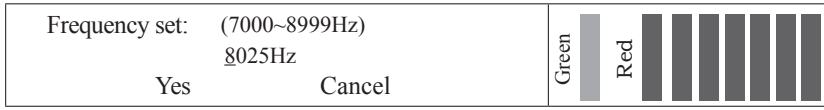


Fig 24

Manual set frequency may be set as any value between 7000Hz to 8999Hz by taking 1Hz as one step.

Note: when the frequency is about 8000Hz, the system performance is the best. Under normal circumstances, the frequency value should not exceed the range from 7350Hz to 8700Hz.

4. Automatically setting frequency upon startup

When set "Auto set the frequency" as "Yes", the system will automatically detect the frequency of the working machine around it upon startup; meanwhile, different frequencies are set, when more than one door is working simultaneously, the frequencies of each door may be automatically staggered, and they will not be duplicated, so the mutual interference is small when working.

Note: When more than one door is working simultaneously, first set this function as "Yes", and then start up them one by one in order, and it is required to complete setting the frequency of previous door before starting up the next door; the alarm rings corresponding to different frequencies are different.

V. Other function setting

"Phase set" and "Debug set" are used for R&D and commissioning, so users should not change them without permission.

[Object Detection Adjustment]

I. Security door is able to achieve the best detection performance only in a stable state, so it is required to detect whether the security door is in a stable state, and the steps are as follows:

1. Check the installation location of security door, and it should meet the "Installation Environment" Standards
2. After startup, the security door should be in a state of no vibration.
3. When testing personnel are passing through the security door in the case of not carrying any metal objects, no alarm will be given; when testing personnel are passing through the security door in the case of carrying metal objects (such as keys), an alarm will be given.
4. If the above-mentioned requirements are met, the security door is in a stable state.

II. In order to avoid the impact of small personal objects (such as rings, keys, belt buckles, leather shoes with metal) on the detection of actual metal objects, the following two methods may be used:

1. Reducing sensitivity

(1) Increase the sensitivity, pass through the security door in the case of carrying the metal to be excluded for alarming, give an alarm normally.

(2) Reduce the sensitivity (the reduction range should not be too large), pass through the security door in the case of carrying the metal to be excluded for alarming again, until the sensitivity is reduced to the value at which no alarm will be given when people pass through the security door.

2. Excluding small metal objects

(1) It is able to set the operations quickly according to the setting method of "excluding small metal objects".

Note: If the zone for excluding small metal objects is a certain zone, it is only required to set the corresponding zone separately; if not, all zones may be set at a time.

III. Detection rules of security door

1. Make two warning lines at the places which are 50cm in front of and behind the security door channel respectively, so that the people being detected may pass through the security door one by one in line.
2. When the people being inspected are passing through the security door, they should take out the objects (such as keys, mobile phones, label buckets, cigarettes, coins) on bodies and place them at the specified position, and get back their objects after completing the safety inspection.
3. The people being inspected may pass through the security door one by one and should not gather together; they should walk at a normal pace, do not rush or amble intentionally or collide with door panel.
4. When the people being inspected are passing through the security door, the next person can continue to receive the inspection only after the previous person has passed through the warning line completely, and the next person can receive inspection only after the alarm sound stops.
5. If an alarm is given when the people being inspected are passing through the security door, it means that they carry metal objects, and we may judge the position of metal object according to the display of door panel zone indicator (user can purchase "handheld metal detector" manufactured by the Company for use together with the door).
6. The people being inspected should not wear accessories or wear caps, gowns, shoes or socks with metal substances, because this may affect the normal detection of metal objects.

[Trouble Shooting]

I. How to solve infrared sensor non-counting problems

1. Check whether the two ends of sensor lead in main case have been installed properly.
2. If the two ends of sensor lead have been installed in place, it is required to check infrared module transmitting voltage. Of them, resistors R5 and R286 are transmitting terminals, the voltage of connecting terminals between R5 and R286 and U2 and U36 is about 2.5V, while D2 and D13 are receiving terminals; the voltage of the third pin of D2 and D13 is close to 0V when infrared is not blocked, and the voltage of the third pin of D2 and D13 is greater than 3V when infrared is blocked; if the voltage at infrared module transmitting and receiving terminals is normal, it is required to check main control IC U21.
3. If one or pair of the infrared module transmitting and receiving terminal is abnormal, you need to check whether the infrared tube has been burned or there is poor contact, or check whether the wire has been connected.

II. How to solve false alarm problems

1. If false alarms occur frequently in the inspection, first check whether the installation environment of security door meets “Installation Environment” standards.
2. If the installation meets “Installation Environment” standards, check whether the left and right door panels have been installed reversely.
3. If the left and right door panels have been installed properly, try to reduce the sensitivity in each zone, and confirm whether the false alarm has been resolved.
4. If the problem cannot be resolved after reducing the sensitivity, it is required to check whether the voltage is normal, and the normal working voltage should be 110-240V.
5. If the working voltage is within the normal range, it is required to change oscillation frequency, avoid interference by means of changing frequency, and then conduct further testing.

III. How to solve the problem of failing to start up

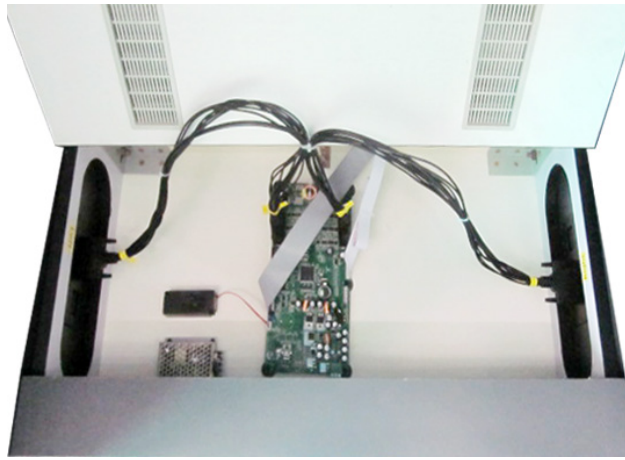
1. If user fails to start up the door, first check whether the voltage is within the normal range, if the supply voltage is lower than 90V, the door cannot be started up (users are recommended to buy one set of adjustable voltage booster for power supply).
2. If the voltage is within the normal range, first check the input terminal of switching power supply; if there is no voltage, check whether the fuse is burned; if there is voltage, test the output terminal of switching power supply and confirm whether the output voltage has reached 12V; if it has reached 12V, check 5V voltage at the main board and 3.6V voltage which supplies power to MCU.

IV. How to solve the problem of failing to give an alarm

1. If the system fails to give an alarm, first confirm the alarm mode; if the alarm mode is “Passing through infrared”, an alarm will be given in the case of counting the infrared; if the alarm mode is “Not passing through infrared”, it is required to check whether oscillation signal has been output.
2. If no alarm is given after oscillation signal has been output, it is required to measure whether the DC +8V, -8V and +12V voltages of main board are normal using a multimeter.
3. If the DC +8V, -8V and +12V voltages of main board are normal, it is required to measure whether 3.6V reference voltage is normal using a multimeter.
4. If the 3.6V reference voltage is normal, it is required to measure the voltage of the third pin of Q21 and Q25 at the main board using a multimeter; the normal DC

voltage of Q21 is close to -8V, and the normal DC voltage of Q25 is close to 0V.

V. Circuit Board Wiring Diagram:

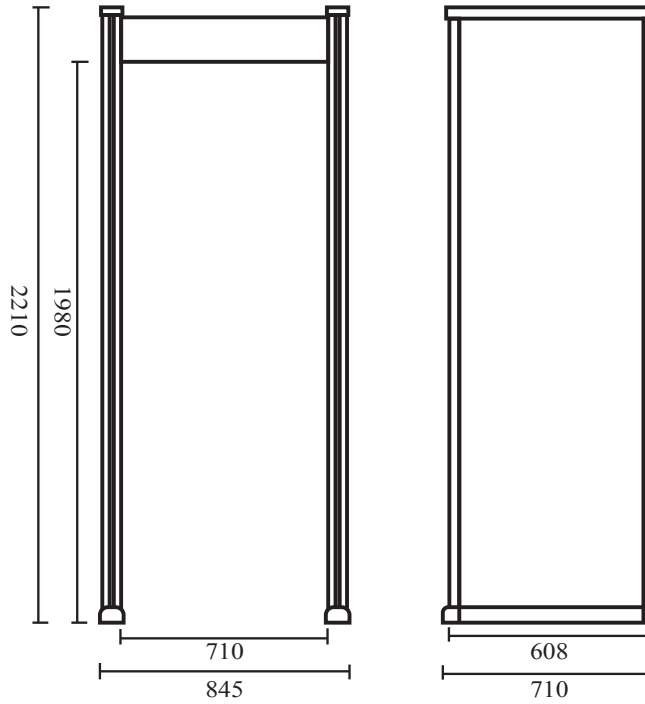


Main board + switching power supply + digital display board + buzzer

[Applicable Standard]

Meet GB15210-2003 Technical Specifications for Walk Trough Metal Detector(WTMD)

[Technical Parameter]



Input : AC100V-240V 50/60HZ

Actual power consumption: < 12W

Signal frequency: 7000Hz - 8999Hz (Adjustable)

Operating environment temperature: -20°C-45°C

Operating environment humidity: ≤98%

Weight of entire packaged product: about 70 kg

Overall dimensions: 2210mm (H) × 845mm (W) × 710mm (D)

Passage size: 1980mm (H) ×710mm (W) × 608mm (D)

Package size: door panel: 2265mm (L) × 740mm (W) × 175mm (H)

Main case: 750mm (L) × 245mm (W) × 475mm (H)

[Inspection Report]

Product name	Metal detection security door	Model		Serial No.	
Inspection date		Inspection equipment		Aging time	

Functional inspection item:			
1. Infrared function		4. Alarm function	
2. Power function		5. Key function	
3. Display function		6. Apearance function	

Sensitivity testing:				
Zone	Sensitivity			
Zone. I	**1950**	**1850**	**1600**	
Zone. II	**1950**	**1850**	**1600**	
Zone. III	**1950**	**1850**	**1600**	
Zone. IV	**1950**	**1850**	**1600**	
Zone. V	**1950**	**1850**	**1600**	
Zone. VI	**1950**	**1850**	**1600**	
Detected article	**Ø20mm Steel ball**	**Ø30mm Steel ball**	**Ø40mm Steel ball**	

Inspected packaging		Inspected product	
Checked by:		**Inspected by:**	

[Packing List]

Manual	( )	8 sets of screw	( )
Power wire	( )	Key	( )
5mm (hexagonal)	( )		
Tested by:		**Quality Inspector:**	

[“Green Channel” After-sales Service System]

I. Instant response: all-day hotline support, give a reply within 4 hours and provide services within 24 -48 hours.Guarantee for replacement within one month: if quality problems occur in the product within one month after users purchased the product, and the problems have been identified and verified by the quality inspection department of the Company, the product will be replaced free of charge.

II. Two-year warranty: users are provided with one-year warranty for the entire door and two-year warranty for main accessories with warranty bill, and they may enjoy the free warranty services provided by the Company and domestic joint warranty institutions.

III. Lifetime services: the joint warranty institutions set up by the Company can provide users with long-term technical advice, technical training, product technology upgrading and so on.

IV. Regular inspection: After the user bought the product, the Company will arrange technical personnel to check on site regularly to ensure that the equipment is running properly.

V. Customization: According to the user’s special circumstances and requirements, the Company make separate design and production.

[Maintenance Certificate]

I. Please keep this certificate properly and present it at the time of repair.

II. This certificate will not have a warranty force if it is not signed by a designated agent.

III. The “three guarantees” certificate and receipt not filled out will be regarded as invalid. Please confirm whether the information filled in the “three guarantees” certificate and receipt is detailed and correct and send it to the dealer, so that we can provide you with services.

IV. This certificate is replaceable in case of loss.

Warranty Card

Product model		Product No.	
Date of purchase		Tel	
Contact person		Fax	
Company’s name			
Address			

Maintenance Record

Maintenance date	Maintenance record	Maintenance personnel

[Disclaimer]

I. The Company has attempted to ensure the accuracy and perfection of the contents during the preparation of this Manual, but we cannot guarantee that there is no omissions or explanation mistakes in this Manual.

II. The Company reserves the right to modify the software and hardware of this product without notice.

III. The company reserves the final interpretation of this Manual.