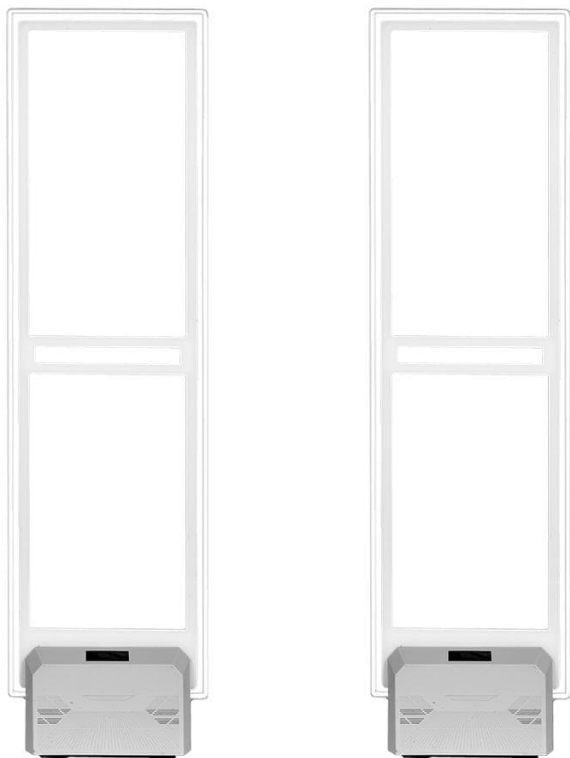
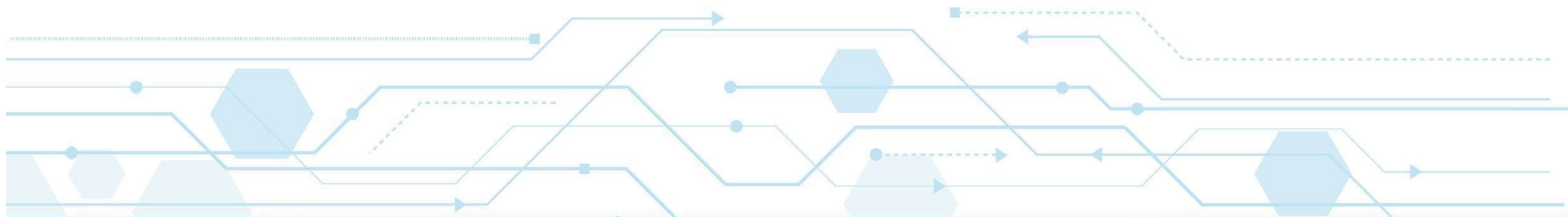
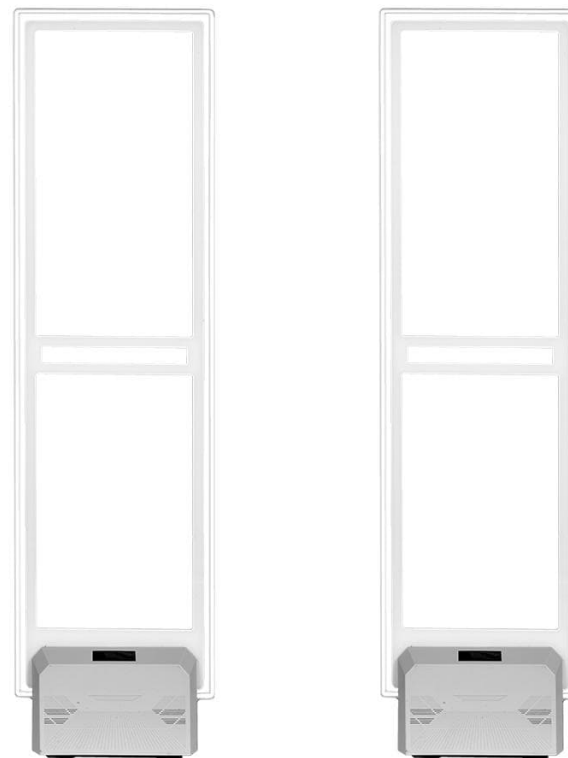


AM anti theft system



AM anti theft system



CONTENTS

AM anti theft system

Note: This document is applicable to the
220v product manual.

Applicable Models: ZS1167-HS, ZS1167-HP, ZA1167-H2.

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AM anti theft system

The Acousto-magnetic anti-theft system is a commodity electronic surveillance system that can detect 58KHZ hard and soft tags. The system is plug-and-play and does not require specialized technicians to operate. The acousto-magnetic anti-theft system utilizes a large number of sophisticated high-speed chips and the latest ARM technology to address anti-theft issues. While maintaining a considerable detection range, it ultimately eliminates false alarms. This system is equipped with a high-precision MCU-based EAS system, which can effectively detect any 58KHZ hard and soft tags. The system's transceiver can detect the unique signal generated by any 58KHZ tag and identify it in less than a second.

Technical Parameters

Product Features

1. Equipped with an advanced ARM automatic control system, featuring strong anti-interference capabilities.
2. Features remote control debugging, ensuring worry-free operation (limited to use in China).
3. Stable performance, sensitive response, and accurate detection.
4. Includes CCTV linkage monitoring function; triggers alarms and captures snapshots simultaneously.
5. Audio and visual alarms provide strong deterrence.
6. Adjustable volume to meet the needs of various store environments.

Appearance Characteristics

1. Stands about 1.5 meters high, taller than most devices on the market, ensuring higher alarm detection.
2. Advanced manufacturing process, good toughness, strong durability, and resistant to deformation.
3. Hidden LED alarm lights that are aesthetically pleasing and offer enhanced brightness.
4. Newly upgraded window-type display screen, full of technological feel, providing a more intuitive effect.
5. The overall appearance is exquisite and stylish, aligning with modern aesthetic trends.
6. Made of high-quality acrylic material, very strong and capable of withstanding high pressure.

Specification

ZS1167- HP

Height: 1495mm $\pm$ 5mm

Width: 402mm $\pm$ 5mm

Thickness: 22mm $\pm$ 1mm

Weight: 17.15 kg $\pm$ 0.5kg
(excluding packaging and accessories)

Power: <70W

Centerfrequency: 58kHz $\pm$ 200Hz

Detection Frequency: 58kHz

Input Voltage: 220-240V~50-60Hz

Volume: Approximately 60~100dB

ZS1167- HS

Height: 1495mm $\pm$ 5mm

Width: 402mm $\pm$ 5mm

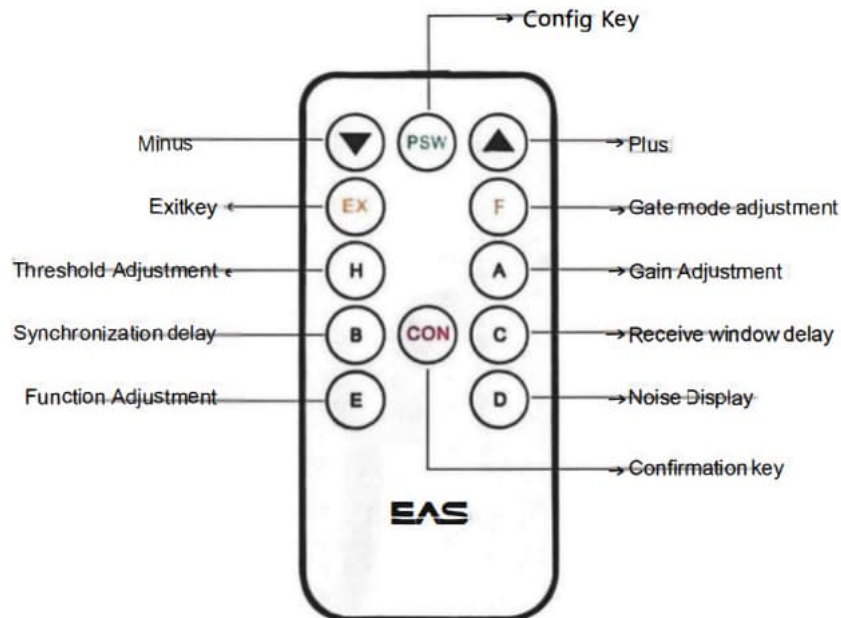
Thickness: 22mm $\pm$ 1mm

Weight: 15.7 kg $\pm$ 0.5kg

Note: product code is:

ZS1167-HP(host), ZS1167-HS(sub
machine) ZA1167-H2(1 dragging 1)

Commissioning Instructions



Note: The remote control and display panel are only used for debugging purposes.

Common Issues and Solutions

1. Test the alarm effect with anti-theft tags at various angles

If the effect is normal, the machine is operating correctly and no adjustment is needed.

2. The system alarms by itself when no anti-theft tag passes through.

Solution: First, check whether there are any anti-theft tags within 1-2 meters of the gate. If none, it means the sensitivity is too high, and the A value should be reduced.

Commissioning Process: Press PSW - Press Δ key - Set to 102 - Press CON - Press A - Set to CHO - Press CON - Press ∇ key to gradually decrease and test - Press EX.

3. The anti-theft tag does not trigger the alarm when passing through the gate.

Solution: First, check the connections between the main and sub-doors, the power line on the main door, and the network cable on both doors for looseness. If everything is secure, the interference value may be too high or the sensitivity too low.

Commissioning Process: Press PSW - Press Δ key - Set to 102 - Press CON - Press D - Set to D1 - Press CON - The displayed value is the interference value: If this value is low, press CON - Press A - Set to CHO - Press CON - Press Δ key to gradually increase and test - Press EX. If the value is high, investigate environmental interference sources.

Turn on the power, and the system will start the program. After a few seconds, the screen will stop at the number 0 (alarm count module). Press PSW to display 100, then press the Δ key to increase to 102, and press CON to display (-), indicating that the system has entered the 102 interface. The control key descriptions are as per the default parameter table (press CON and then EX to exit and save settings).

Key	Function	Default Value	Effective Range
A	Gain Adjustment	7	0--8
B	Synchronization Adjustment	1	0--480
C	Receiver Window Delay	4	0--14
D	Noise Display	0	1--999
E	Function Adjustment	0	1--9
H	Threshold Adjustment	40	0--200
F	Door Mode Adjustment	0	0--4
PSW	Menu Key		
EX	Exit Key		
CON	Confirm Key		
∇	Decrease		
Δ	Add		

E, Function Adjustment

Press the E key and use the Δ and ∇ keys to change the value of X. Below is the function description.

Key	Function	Default Value	Effective Range	Function Description
EO	Empty			
E1	Restore Factory Settings			Restore to Factory Default Settings
E2	Manufacturer Reserved Function			
E3	Alarm Duration Adjustment	BB 8	0-20	Single Alarm Duration, the larger the number, the longer the alarm time
E4	Alarm Type Selection	BE 1	0-1	BE 0: Intermittent Alarm BE 1: Continuous Alarm
E5	Strong Interference Limit Selection	L 250	150-950	Strong Interference Alarm Threshold, recommended for use in high-interference environments
E6	Manufacturer Reserved Function	EF50/EF60	EF50-EF60	Grid frequency option: select EF50 for 50Hz, and EF60 for 60Hz.
E7	Alarm Condition Selection	EF 8	5-8	Smaller values provide better detection, but may cause false alarms under strong interference
E8	Receiver Tag Frequency Selection	EF 1	1-4	The larger the detection tag range value, the wider the frequency range for detecting tags, but false alarms may occur under strong interference
E9	Strong Interference Alarm Threshold	L35	1-40	Under strong interference, the larger the value, the lower the false alarm rate, but the detection sensitivity decreases

Note: The default configurations are as follows:

- For voltages in the range of 100V-120V, the default setting is EF60.
 - For voltages in the range of 220V-230V, the default setting is EF50.
- Users can select the corresponding frequency option based on the actual grid frequency in their local area.

H , Threshold adjustment

Press the H key and use the Δ and ∇ keys to change the value of H. Below is the function description. (Note) Gain Adjustment: After pressing the H key, "CHO" will be displayed, with 4 values in total.

Press CON again to display H40. The higher the value, the lower the false alarm rate, but the detection range will also decrease. Below is a brief description: Press H, then adjust by using the Add or Decrease (CHX).

Value	Default Value	Effective Range	Function Description
CHO	H 40	0-200	Adjust all three channels simultaneously
CH1	H 40	0-200	Adjust only Channel 1
CH2	H 40	0-200	Adjust only Channel 2
CH3	H 40	0-200	Adjust only Channel 3

F, Door Mode Adjustment

Press the F key and use the Δ and ∇ keys to change the value of F. The default value is F0. Below is the function description.

Value	Function Description
F0	CH1, CH2, CH3 transceiver
F1	CH1 receives, CH2 transmits, CH3 transmits
F2	CH1 transmits, CH2 receives, CH3 receives
F3	CH1 transceiver, CH2 transmits, CH3 transmits

Note: Using F1 or F2 may affect the detection performance.

A, Gain Adjustment

Press the A key and use the Δ and ∇ keys to change the value of A. Below is the function description. (Note) Gain Adjustment: After pressing the A key, "CHO" will be displayed, with 4 values in total.

After pressing the A key, "CHO" will be displayed, then press CON to display A7. When there is no interference, the higher the value, the wider the detection range. If there is strong interference, the value can be lowered to achieve the desired detection range.

Value	Default Value	Effective Range	Function Description
CHO	A 7	A1-A8	Adjust all three channels simultaneously
CH1	A 7	A1-A8	Adjust only Channel 1
CH2	A 7	A1-A8	Adjust only Channel 2
CH3	A 7	A1-A8	Adjust only Channel 3

B: Synchronization Delay

After pressing the B key, it will display (default value B 1). Use the Δ and ∇ keys to change the setting value. When installing the same equipment, the synchronization delay value must be set to the same value for all units. Improper synchronization delay settings can lead to frequency interference, false alarms, and other issues.

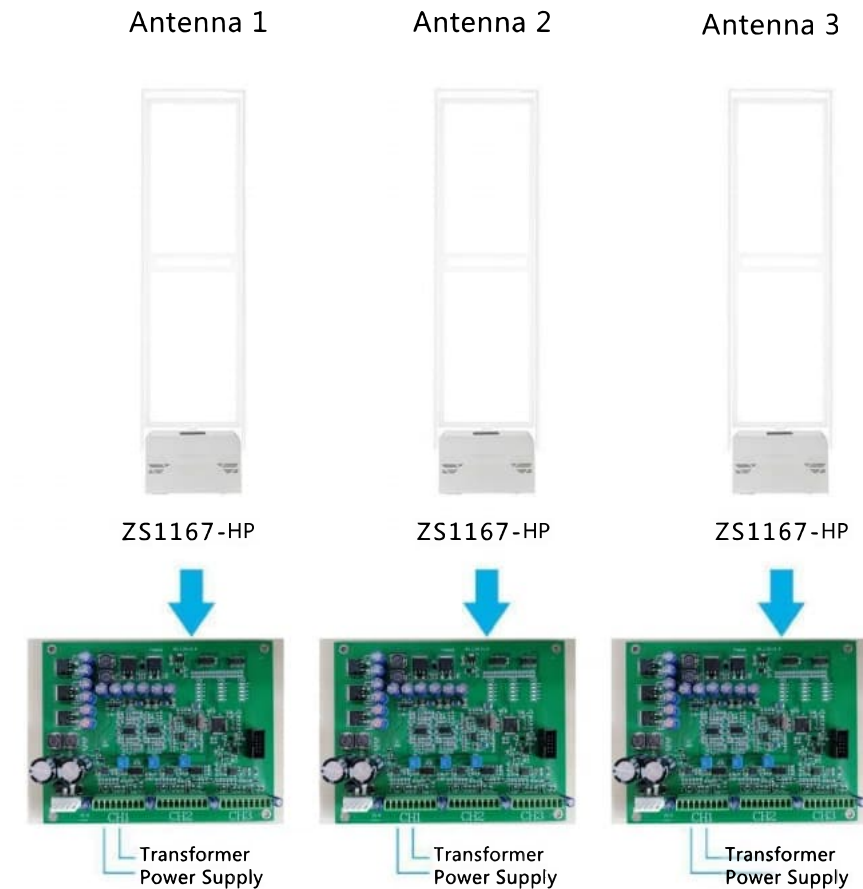
C: Receive Window Delay

The C key serves as the window delay adjustment key, with a default value of C4. Each increment or decrement changes the reception delay time. If the system is near a large metal object, the delay value can be appropriately increased.

Installation and Commissioning Instructions

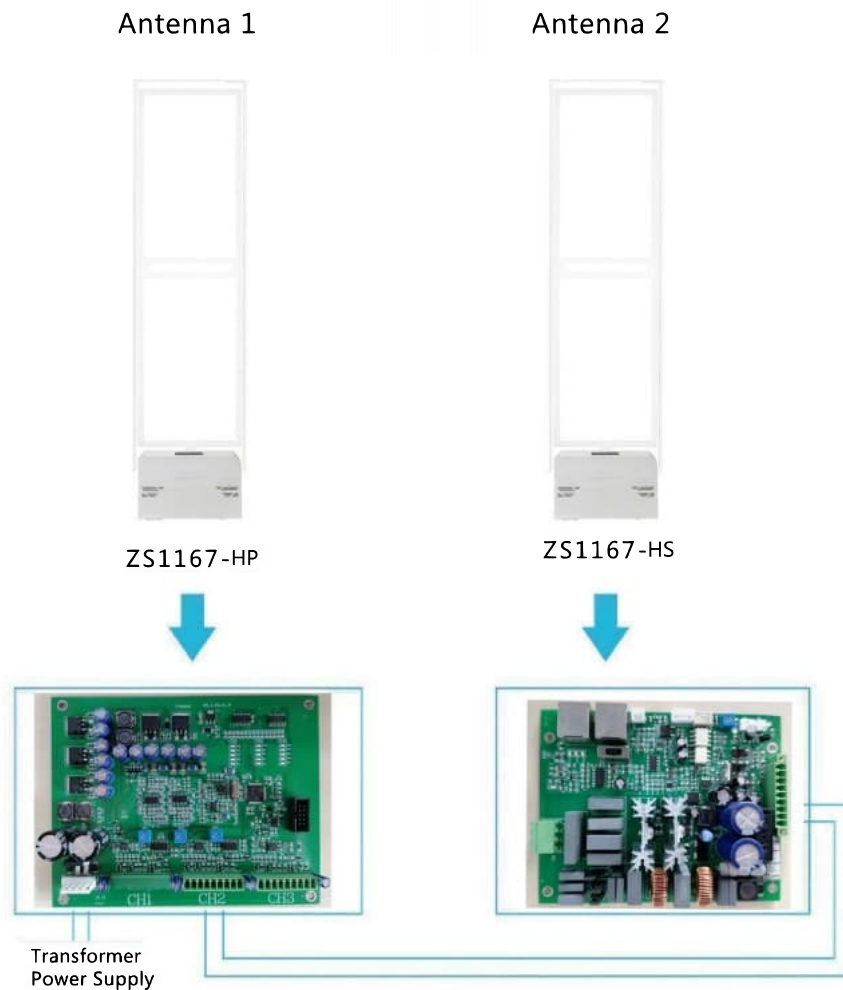
I. Equipment Installation Diagram

1. Single or multiple host installation



(Note: Each host operates independently and requires a separate power supply.)

2. One mainframe with one subframe



Note: A connection line is required between the host and the auxiliary machine. The host provides an independent power supply, and both the host and the auxiliary machine have independent alarms.

II. Installation distance

The installation distance of the anti-theft antenna is determined by the site environment and the type of label used. For safety reasons, it is recommended to conduct the first power test to determine the optimal installation distance.

1. Single and multiple hosts

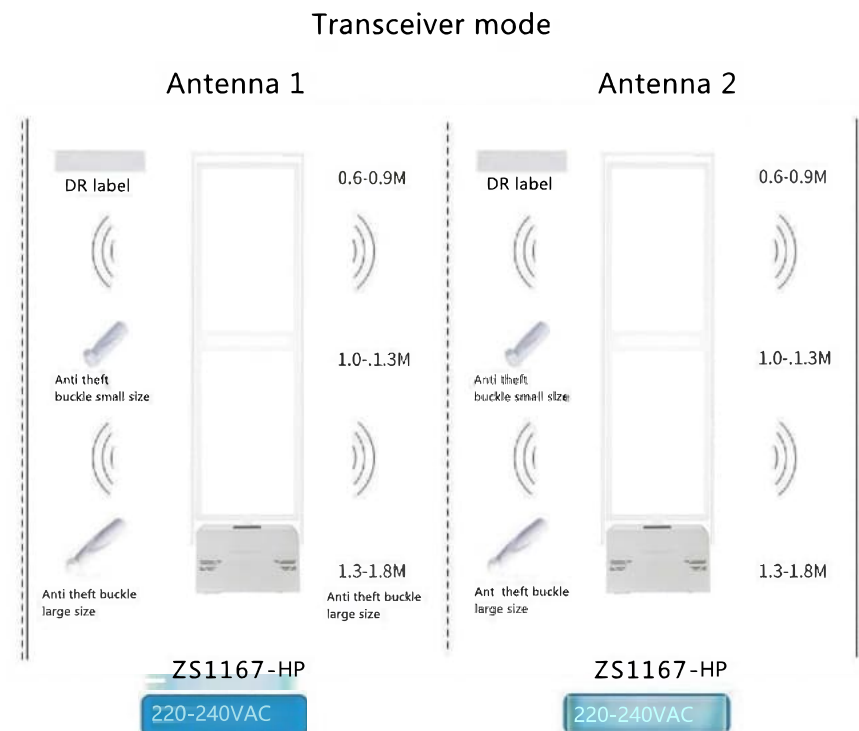
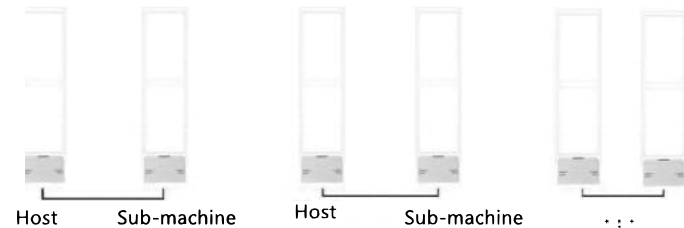


Diagram: Each host operates independently, with equivalent left and right sensing distances.

1. One mainframe with one subframe



Installation Schematic



Note: The AMS1137 series antenna functions as an independent main transceiver. There is no need to connect lines between the main units, but a connection is required between the main and auxiliary units. Multiple sets of hosts can be installed at the construction site, and all hosts will automatically synchronize without affecting each other (the same store defaults to the same phase value).

Antenna internal diagram

	Host	Sub-machine
Front		
Back		

Preparing for Installation

Important Safety Information

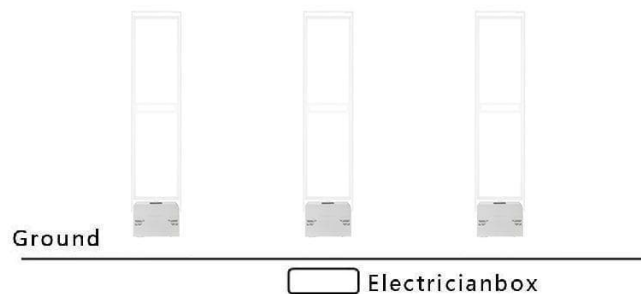
Installation technicians must prioritize the choice of installation surfaces. The product should only be installed on non-flammable materials such as metal, concrete, tile, V-0 rated plastics, and other fire-resistant plastics. Flammable surfaces, such as wood panels or combustible plastics, must be avoided. The bottom opening of the product must be completely sealed after installation, with no gaps remaining. Failure to adhere to these requirements may pose a significant fire risk.

Plug on the power supply cord is used as the disconnect device,

The equipment is pluggable equipment, socket-outlet shall be easily accessible.

1. Confirm whether the power supply is standardized

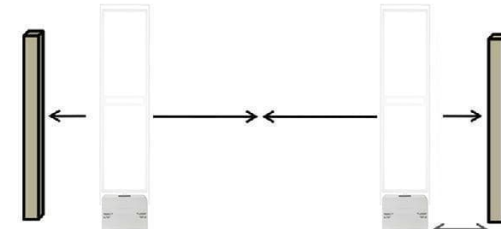
The AC power supply (including ground) is independent. The user distribution box is equipped with a leakage protection switch.



2. Pre-inspection before installation.

- Check the equipment and open the package, and count whether the equipment is complete. Ensure that the detector configuration is consistent with the installation site.
- Power on the detector for the first test; the labeling test should trigger an alarm at the normal distance.
- If there is a blind spot in the middle of the reserved position, you can first debug the equipment to its optimal state before installation.

Preparing for Installation



It is not recommended to use anti-theft buckle equipment within 2 meters of surrounding objects. It is advisable to install the equipment at least 0.2 meters away from the door frame or wall.

3. Installation tools and accessories required.

Required tools:

Impact drill Wrench Hammer Scissors Pliers Marker Pen Phillips/one screwdriver Expansion screws



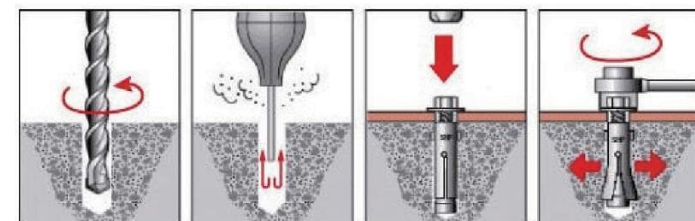
Optional tools:

Multimeter Hole opener Tape Hot melt glue gun Cutting machine



4. Fix the holes.

There are four holes for each antenna. Use a marking pen to position the antenna, then employ a hole opener to create small holes (to prevent breaking the floor tiles). Next, use an impact drill to drill the holes, and finally, secure the device with expansion screws.



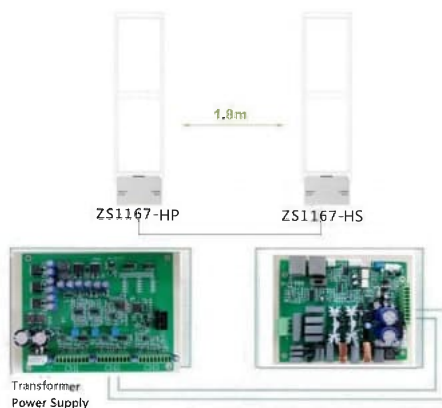
5. Connect the power cord.

Take the power cable from the spare parts package and insert the green terminal into the power board (as shown in the red circle in the following figure), ensuring it is properly seated.



6. Connect the communication cable.

Take the communication cable from the spare parts package and connect the communication cables between the main and secondary antennas based on the number of antennas to be installed. Ensure it is fully inserted.



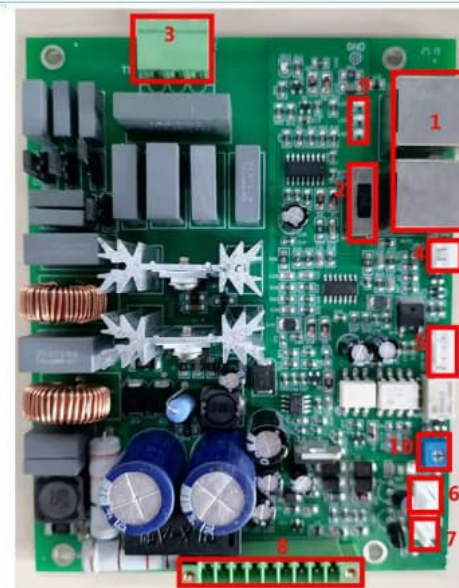
The main board CH2 is connected to the corresponding port on the secondary board;

Test

1. After completing the antenna installation, perform the second inspection test to check the performance of the detector.
2. Once the performance is confirmed, re-install the cover.
3. Clean the site and provide the salesperson with basic training on usage and maintenance.

Debugging instructions

Front of the secondary board



1	antenna receiving coil connector
2	Sensitivity adjustment switch
3	antenna transmitter coil connector
4	Standby light connector
5	CCTV linkage
6	Alarm light connector
7	Buzzer
8	Antenna communication interface
9	Sensitivity indicator light
10	Volume adjustment

Back of mother board



1	Display connector
2	Power input connector
3	CH1 antenna communication interface
4	CH2 antenna communication interface
5	CH3 antenna communication interface
6	Channel sensitivity adjustment
7	
8	

Commissioning Settings

LED status light

It displays the current status of the device. The fewer the green lights on the DS, the better the current environment. If more than one green light is illuminated, it indicates that there is interference in the environment, and adjustments are required. If more than two to three green lights are on, it indicates strong interference, and adjustments are necessary.

None of the DS lights are lit	Only DS1 is lit	DS1 and DS2 are lit	DS1, DS2, and DS3 are lit	DS1, DS2, and DS3 are lit green, and DS4 is lit yellow
				
The environment is good.	The environment is slightly disturbed.	The environment is slightly disturbed.	The environment is greatly disturbed.	The environment is seriously disturbed.

Solution: First investigate the source of interference based on the actual situation on site. If no source of interference is found, adjust the phase to select the setting where the status light shows the best.

Site Requirements

All acoustic and magnetic equipment should be powered by an independent commercial power line with a ground wire.

When installing detectors, keep them as far as possible from non-removable sources of interference.

Common sources of interference include: neon lights, electronic engines, computers, LCD screens, cash registers, UPS power supplies, LED advertising screens, variable frequency elevators, large metal reflections, and power distribution rooms.

Commissioning Settings



Solution: When the environmental interference is significant, first check if there are any anti-theft tags near the antenna. After confirming that no anti-theft tags are present, appropriately lower the values for gain, sensitivity, and anti-interference settings to ensure accurate alarm triggering.



Sensitivity Adjustment



1st Gear	Red light is displayed, highest sensitivity, anti-interference is slightly weaker.
2nd Gear (Default)	Yellow light is displayed, moderate sensitivity, and moderate anti-interference.
3rd Gear	Green light is displayed, lowest sensitivity, and strongest anti-interference.

Maintenance

1. Regularly inspect and clean the equipment to maintain hygiene.
2. Regularly check the internal wiring of the equipment for any looseness, rust, corrosion, etc.
3. Regularly inspect the bottom of the equipment to ensure it operates in a dry environment.
4. Regularly check if the batteries in the remote control have sufficient power.



“ Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment” .

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Safety warning

-  Electronic products! Non-professionals, please do not open the power supply and antenna frame housing.
-  This product uses sensitive electronic devices; please ensure that the equipment is well grounded to prevent damage caused by static electricity.
-  The power supply for acoustic and magnetic related equipment must be independent and should not be used with other electronic and electrical devices (such as neon lights, electronic engines, computers, LCD screens, cash registers, etc.), otherwise, the detector and degausser may not function correctly.
-  It is recommended that the detector be turned on for more than 48 hours of continuous operation, then powered off and restarted once to avoid entering a dead state, which may cause the detector not to alarm or to give false alarms.
-  It is recommended that the detector be turned on for more than 48 hours of continuous operation, then powered off and restarted once to avoid entering a dead state, which may cause the detector not to alarm or to give false alarms.
-  The detector can only trigger an alarm when it detects a certain intensity of the same frequency signal. Therefore, the alarm distance of the detector is significantly affected by the quality of the label, as well as the direction and position of the label within the detection range.
-  Installation must be carried out by qualified personnel, with strict adherence to safety regulations.
-  It must not be installed directly on wooden floors or other flammable materials.
-  The user's distribution box must have a leakage protection switch, and the equipment must be properly grounded.
-  Strong and weak power must be strictly zoned and must not be mixed.
-  It is strictly prohibited to cover the product; ventilation must be maintained.
-  During non-business hours, please ensure the equipment is powered off.

Note: In case of any dispute regarding the interpretation of this manual, the final right of interpretation shall rest with our company.

Abnormal problem handling

What is the source of interference

The anti-theft system operates with a 220VAC-240VAC power supply. Interference can occur if the power supply is shared with equipment that has not passed electromagnetic compatibility (EMC) certification, such as battery chargers, mobile phone chargers, inverter elevators, or cash register power supplies. These devices can cause significant interference to the system, which typically does not come through the wiring but through the ground or via electromagnetic waves in the surrounding space.

Note: This instruction manual applies to all models of the product.

Interference processing methods

1. Adjust the position and direction of the detector or turn off surrounding electrical devices to observe changes in the interference indicator, helping to identify the source of interference. Move away from or remove the source of interference. Common devices like switching power supplies, compressors, rectifiers, LCD screens, induction cookers, microwave ovens, and printers may cause interference to the detector.
2. Change the power socket and observe any changes in the interference indicator to check if the interference is related to the power supply. If using a UPS or sharing the power line with high-power devices, interference may occur, so it is recommended to use a different power socket.
3. If the sources of interference around the detector cannot be completely removed or if the collective sources of interference cannot be identified, and the detector does not meet the field usage requirements, consider changing the installation location, narrowing the installation door distance, or reducing the sensitivity to ensure proper operation. Non-removable sources of interference include power distribution rooms, equipment rooms, monitoring rooms, inverter escalators, elevators, etc.

Item	Description	Sensormatic SKU
1	Master board(Version2)	RM-1137-SPR-01
2	Slave board(Version2)	RM-1137-SPR-02
3	Interconnecting Cable(2.8m)	RM-1137-SPR-03
4	Interconnecting Cable(2m)	RM-1137-SPR-04
5	Interconnecting Cable(15m)	RM-1137-SPR-05
6	Configurator Controller	RM-1137-SPR-06
7	Base cover	RM-1137-SPR-07
8	Screen cover on base	RM-1137-SPR-08
9	Power Cord(1.5m)-CN plug	RM-1137-SPR-09
10	Power Cord(15m)-CN plug	RM-1137-SPR-10
11	Mounting bolts	RM-1137-SPR-11
12	Transformer(220V)	RM-1137-SPR-12
13	Alarm Buzzer	RM-1137-SPR-14
14	Power board	RM-1137-SPR-15
15	LED Alarm Display Board	RM-1137-SPR-16
16	power Cord(1.5m)-Type C	RM-1137-SPR-17
17	power Cord(1.5m)-Type G	RM-1137-SPR-18
18	power Cord(1.5m)-Type B	RM-1137-SPR-19
19	power Cord(1.5m)-Type I	RM-1137-SPR-20
20	power Cord(1.5m)-Type J	RM-1137-SPR-21
21	CCTV Connecting Cable(20CM)	RM-1137-SPR-22

