ALE-PIRB

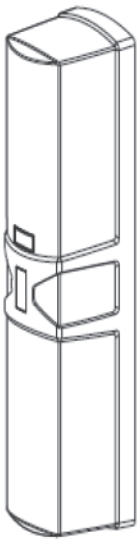
4 Beam Hardwired IR Motion Detector
Instruction Manual

Thank you for purchasing this photoelectric correlation detector. To ensure your safety and the effectiveness of product operating, please read this instruction book carefully before using and keep it for reference.

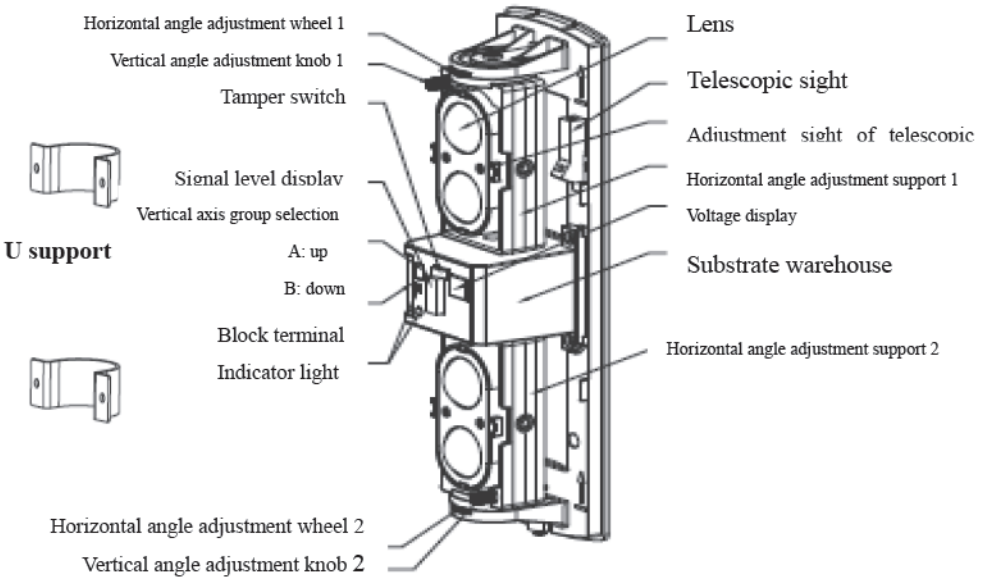
⚠ **Waring**	please don't apply this product to any applications (for example, people or car) other than detecting motion.
	To avoid getting a electric shock, please don't touch this product with wet hands. If this product is wet, please don't touch, either.
	please don't attempt to remove or repair this product, or it may cause damage
	Do not connect a port to a voltage or current that exceeds the specifications, as this will cause the product to fire.
⚠ **Attention**	Avoid spilling or splashing water on the product, as this may damage the product.
	Please periodically check the product for safe operation.
	This product is not an antitheft device and we do not assume any legal liability for any property damage caused by the intrusion of the thief.

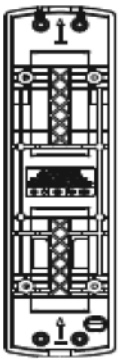
Note: Unless otherwise specified, the following description applies to both four beams products.

Ⅰ. Name of parts

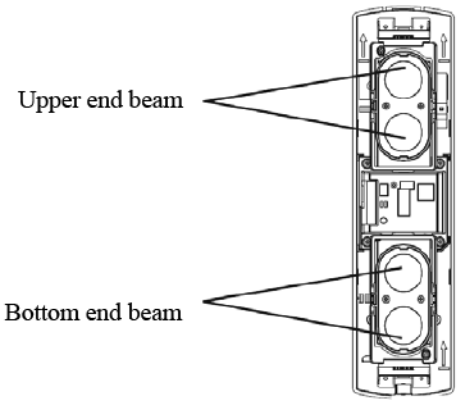


◆ **Front cover**





◆ base board

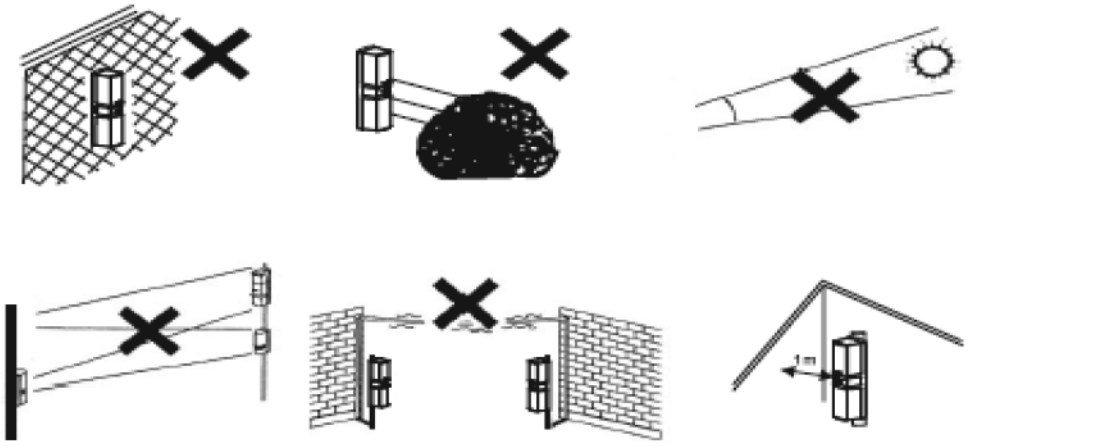


◆ Body

Ⅱ. Functions and features

- Adjustable beam cutoff time allows for proper beam cut-off time for any environment
- Suitable for a wider range of Type C relays of applications
- Tamper switch, normal closed, open when outer cover is removed
- Optional 4-beam frequency band, eliminating crosstalk, suitable for long-range and beam stack applications (**only variable frequency correlation detector**)
- Digital tube display received signal strength, simple debugging, can be checked at the receiving optical calibration level
- Wide voltage and energy-saving design, effective energy conservation
- Digital communication function, can easily get the access to the maximum optical correction voltage at the terminal
- Intelligent heat treatment, effective defrosting de-icing, the elimination of snow, fog, frost, etc. caused by false positives
- Highly Sealed Waterproof: IP65
- Wide-angle optical correction range: horizontal ± 90 °, vertical ± 10 °
- Digital filtering, environmental adaptation, reduce false positives to a minimum
- Beam interference minimization, applicable to all kinds of complex environment

Ⅲ. Installation suggestion



Avoid infrared beams from other detectors

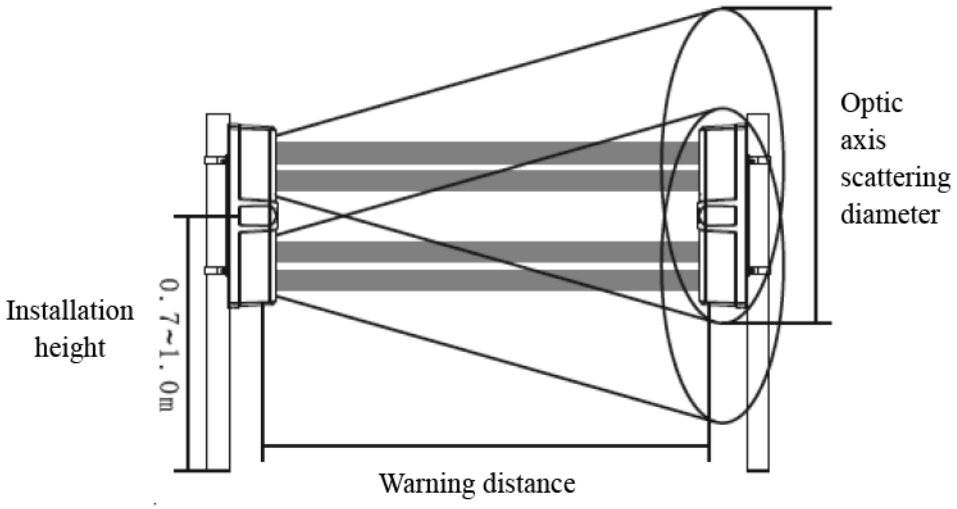
Avoid aerial wiring

Install the correlation detector at a distance of more than 1 m from the wall

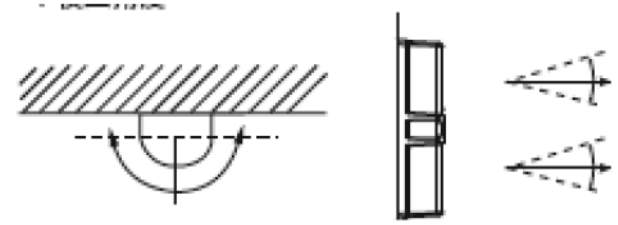
2. Normal installation
◆Detection range
◆Field angl

Type	warning distance	beam field angle
50M	50m	1. 6m
100M	100m	2. 0m
150M	150m	2. 6m
200M	200m	3. 4m
250M	250m	4. 4m
300M	300m	5. 2m

◆Installation height



◆Correction angle



Horizontal 180° (± 90 °) Vertical 20° (± 10 °)

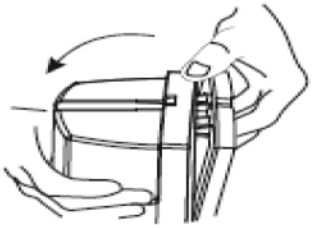
Adjust optic axis in horizontal ± 90 °
vertical ± 10 ° direction

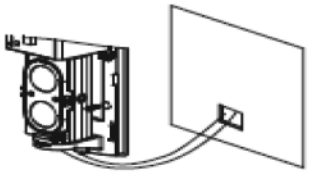
Note: to get best detect performance, please avoid detecting at 45℃ angle

Ⅳ. Installation method

◆Install on a wall

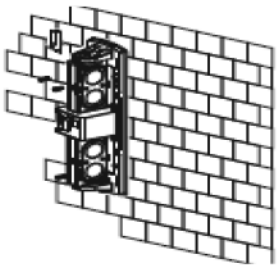
1. Check the operation, and finally install the front cover and tighten the screws



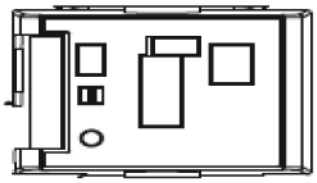


2. Threading: get the embedded wire out from the mounting hole piercing, reserve for about 10cm line length to prepare for wiring, wire can not be higher than the threading hole; to prevent rainwater flow into the inner line

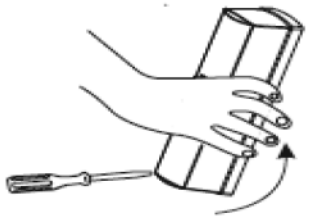
1. Loosen the cover screw and remove the front cover



3. Insert the expansion tube into the four mounting hole and attach the supplied screws to secure the expansion tube



4. Port connection and beam correction (refer to "Optical axis correction" for details)

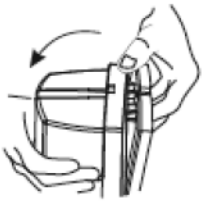


5. Check the operation, and finally install the front cover and tighten the screws

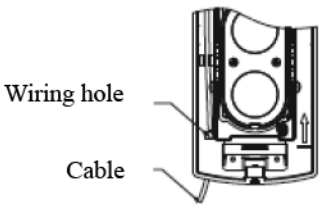
◆ Install on a pole

Support external diameter
Φ38- Φ50 mm

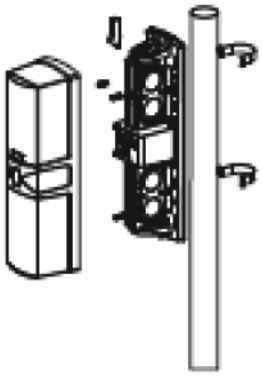
1. Open the lead hole in the bracket, and lead out the cable



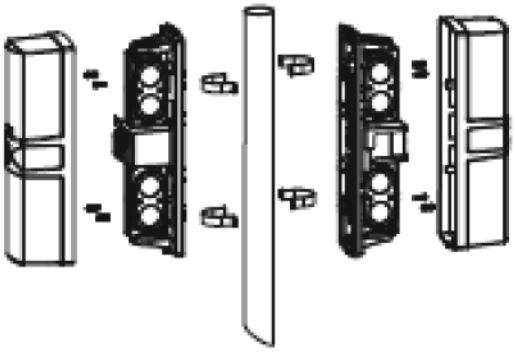
2. Remove the license



3. Threading: get the embedded wire out from the mounting hole piercing, reserve for about 10cm line length to prepare for wiring, wire can not be higher than the threading hole; to prevent rainwater flow into the inner line



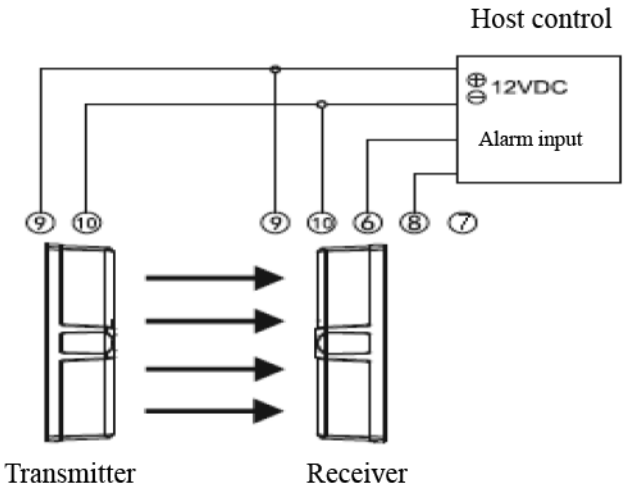
4. Fix the body on the support



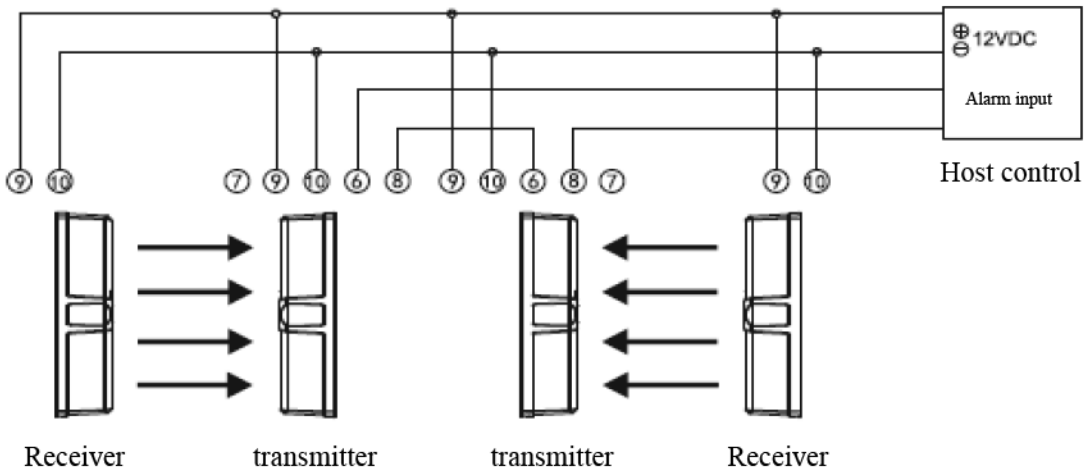
5. Back-to-back installation diagram: the end of the work, please refer to the wall installation steps 5,6 step

Ⅴ. Wiring sample

Sample 1:
Installation group 1: Connect the transmitter and receiver power together, use the control panel 12VDC power supply, alarm output using normally closed, as shown on the



Sample 2:
Stack installation group 2: Connect the transmitter and receiver power together, use the control panel 12VDC power supply, alarm output using normally closed, as shown on the right



Sample 3:
Concatenated installation group 2: Connect the transmitter and receiver power together, use the control panel 12VDC power supply, alarm output using normally closed, as shown on the right

■The direct connection of the power supply to the detector should not exceed the length shown in the table below:

Wire diameter \ Length / Voltage	DC12V	DC24V
0.5mm²(∅ 0.8)	100m	500m
0.75mm²(∅ 1.0)	150m	750m
1.0mm²(∅ 1.2)	200m	1000m
1.5mm²(∅ 1.4)	250m	1250m

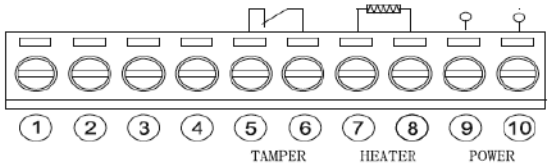
⚠ : Attention:

1. The power cord must not exceed the listed length.
2. When connecting multiple detectors, the required line length is the listed length divided by the corresponding number of units
3. Do not connect the port connections to voltages above the specifications. This will burn out the equipment and may cause a fire.

Ⅵ. Terminal connection

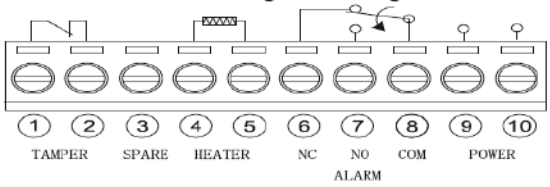
Warning when installing, do not connect a voltage or current exceeding the specifications to the port, which could result in damage or fire!

Transmitter terminal arrangement diagram:



1. Power input DC10V-24V, prefer 12VDC.
2. Need to buy the heater, the factory standard does not contain heaters.
3. The tamper switch is independent of other appliances and open it when the enclosure is removed.

Receiver terminal arrangement diagram:

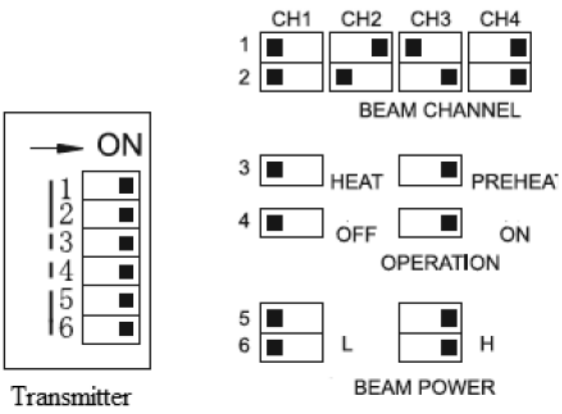


1. Power input DC10V-24V, prefer 12VDC.
2. Need to buy the heater, the factory standard does not contain heaters.
3. The tamper switch is independent of other appliances and open it when the enclosure is removed.
4. Relay contact 1C 30VDC 0.5 Amax

Ⅶ. Dial switch

Instruction of dial switch

◆Intelligent Variable Frequency Photoelectric Digital

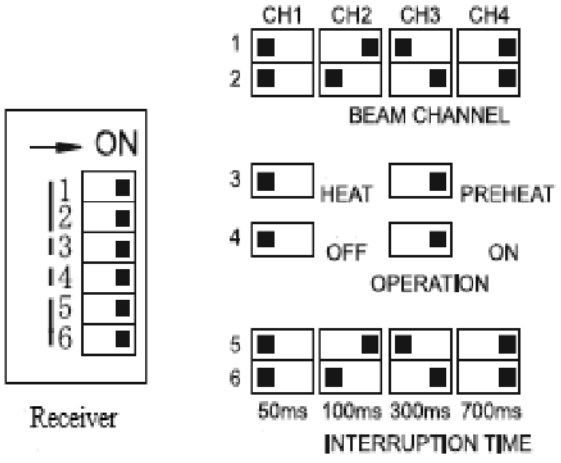


(1) Two dial switches between 1 and 2, set the beam frequency to be the same as that of the 1 and 2 dial switches of the receiver.

(2) Transmitter operation instructions, after debugging is completed, please set it off to save power.

(3) The preheat function helps the factory and the customer test the heating function of the heater with a constant temperature control higher than that of the heater. If the customer chooses the heater and uses, please keep it in the heating position, to save the electrical energy.

(4) The intensity of the transmitted light beam is high and low. Please set it according to the need of warning distance.



(1) Two dial switches between 1 and 2, set the beam frequency to be the same as that of the 1 and 2 dial switches of the receiver.

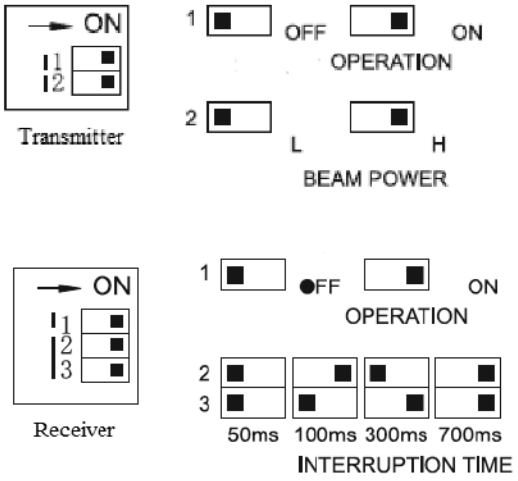
(2) Transmitter operation instructions, after debugging is completed, please set it off, turn off the break code at the same time, to save power.

(3) The preheat function helps the factory and the customer test the heating function of the heater with a constant temperature control higher than that of the heater. If the customer chooses the heater and uses, please keep it in the heating position, to save the electrical energy.

(4) Breaking time should be selected from the actual use of places.

(5) Each breaking time is set to the maximum detectable time. May not be detected as compared to a faster moving speed. For bird birds, leaves, newspapers and the like may accidentally cut off the beam situation, you can set a longer interception time. Adjust the playing interrupt time, you must do validation.

◆Intelligent Digital Infrared Correlation Detector



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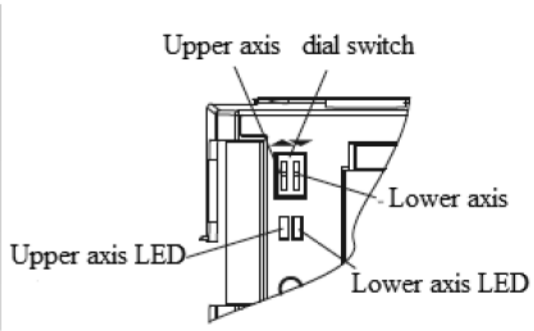
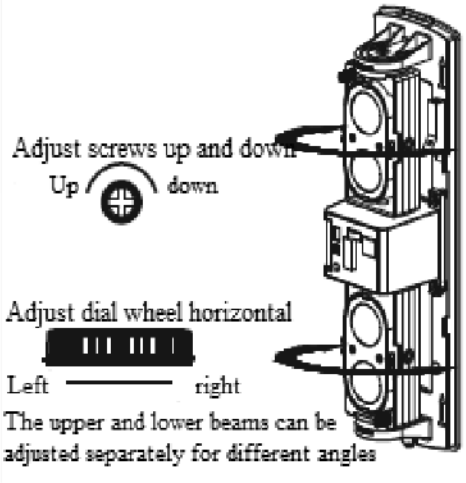
Ⅷ. Optical axis adjustment and calibration instructions

Upper and lower axis dial switch selection method:



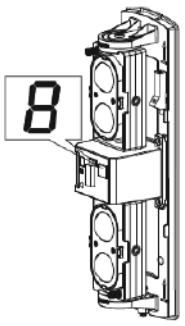


1.In the adjustment of a group of optical axis. Turn the corresponding switch to ON and the other group to OFF. After both groups are adjusted, set the switches to ON.

2.Adjust horizontal angle adjustment wheel and vertical angle adjustment knob, then the dynamic digital display indicator is lit step by step, digital voltmeter showing the highest value is better.

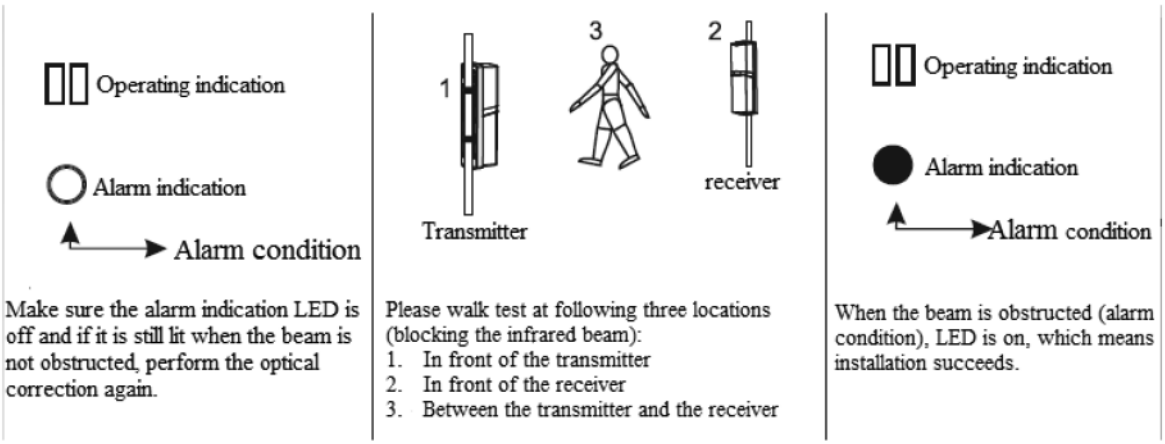
3.Digital tube instructions (Digital tube is on the right side of the main PCB shell, as shown in Figure)

(1) To adjust the beam frequency dial switch, the transmitter and receiver frequencies must be consistent. If the transmitter frequency is CH, the receiver frequency must also be CH1.
(2) Adjust vertical angle adjustment knob and horizontal support, then digital tube's indication vary from 0-9. 0 shows no signal, it's on alarm condition, relay alarm output, alarm indicator light is on. When correcting optical axis, the maximum reading of the digital tube should be 9.
(3) After completing the above steps, be sure to perform a walk test, and confirm the alarm condition is normal. If you can not proofread, please perform the first step. So can not proofreading, please refer to troubleshooting.



Signal strength	0~4 Recalibration 5~6 ordinary 7~8 Good 9 great

Ⅸ. Walk test



Make sure the alarm indication LED is off and if it is still lit when the beam is not obstructed, perform the optical correction again.

Please walk test at following three locations (blocking the infrared beam):

1. In front of the transmitter
2. In front of the receiver
3. Between the transmitter and the receiver

When the beam is obstructed (alarm condition), LED is on, which means installation succeeds.

Note: When the beam is obstructed (alarm condition), LED isn't on, please refer to "fault handing" to solve.

Ⅹ. Beam frequency

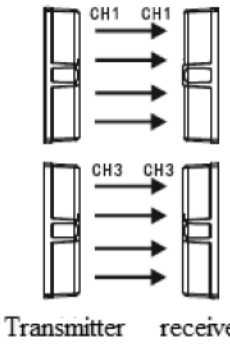
When multiple stacks or long-haul applications are used, selecting a specific beam frequency can prevent crosstalk from being detected.

For the transmitter and receiver frequencies, the dial switch settings must be the same.

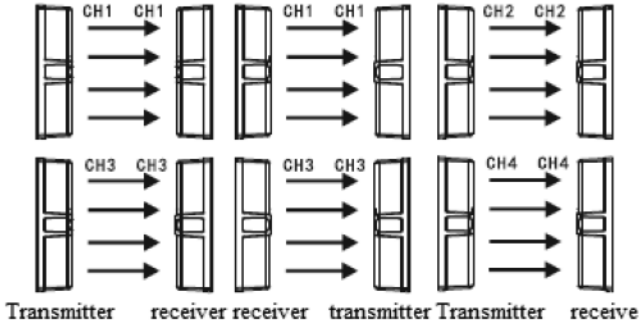
Although there are four independent beam frequencies to choose from, but when stacking use, please set their frequency difference of 2.

As shown in the following figure, the upper beam frequency is set to 1 and the lower beam frequency is set to 3. 2,4 frequency and the same token.

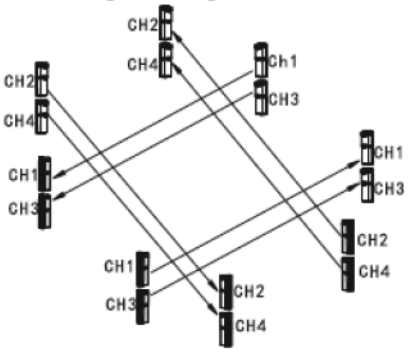
(1) Two stacking groups



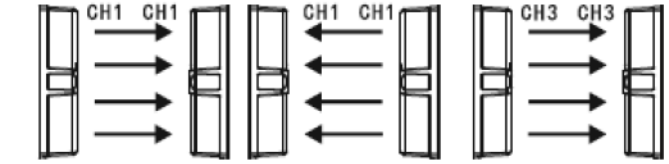
(2) Six groups of long distance stacking



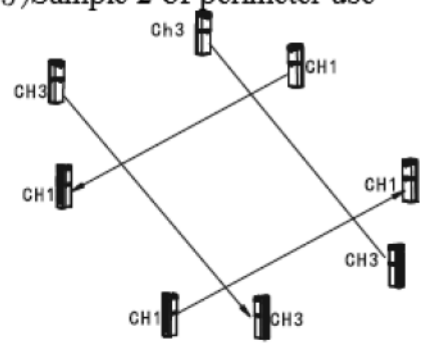
(3)Sample 1 of perimeter use



(4)Sample of three groups of long distance

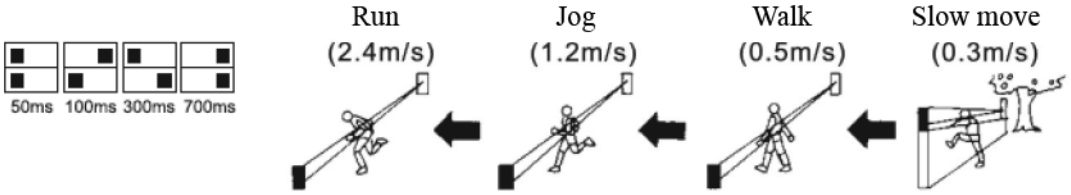


(5)Sample 2 of perimeter use



XI. Breaking time

The beam-off time adjustment is on the receiver, which allows you to adjust the sensitivity of the detector to suit the prevailing circumstances, and a slower setting means a reduction in sensitivity.



Breaking time	50 ms	100 ms	250 ms	500 ms

Each breaking time is set to the maximum detectable time. May not be detected as compared to a faster moving speed. For bird birds, leaves, newspapers and the like may accidentally cut off the beam situation, you can set a longer interception time. Adjust the playing interrupt time, you must do validation.

XII. Specifications

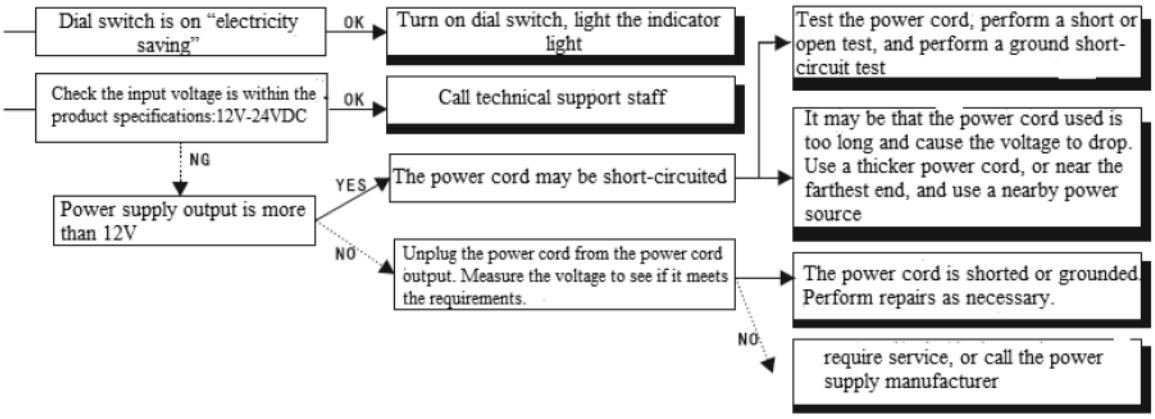
Type		50M	100M	150M	200M	250M	300M
Warning distance	Indoor (m)	100	200	300	400	500	600
	Outdoor (m)	50	100	150	200	250	300
Detection method		Four infrared beams were cut off at the same time					
Breaking time		50 ms, 100 ms, 250 ms, 500 ms (selection)					
Beam frequency		Four options					
Power voltage		10V-24V DC/AC					
electricity		90mA					
Alarm cycle		2 s, 50 ms (selection)					
Alarm output		Relay contact output 1C, contact capacity DC30V 0.5A max					
Tamper switch		Normal closed, open when outer case is remoced					
Protection level		I p65					
Work temperature		-25℃-55℃					
Environment humidity		95% max					
Correction angle		Horizontal 180° (± 90 °) Vertical 90° (± 10 °)					
Installation location		Indoor/outdoor, wall/pole installation					

Weight		2.5Kg
Parts	U support	4, 70*37, 5*21, 5 mm, 10 mm thickness of stainless steel material
	Installation screws	8, PM4*30 mm
Heater (optional)	voltage	1.2V-24V DC
	current	350mA,max
	temperature	+60℃
	Heater parts	2Pcs PA2.5*10mm

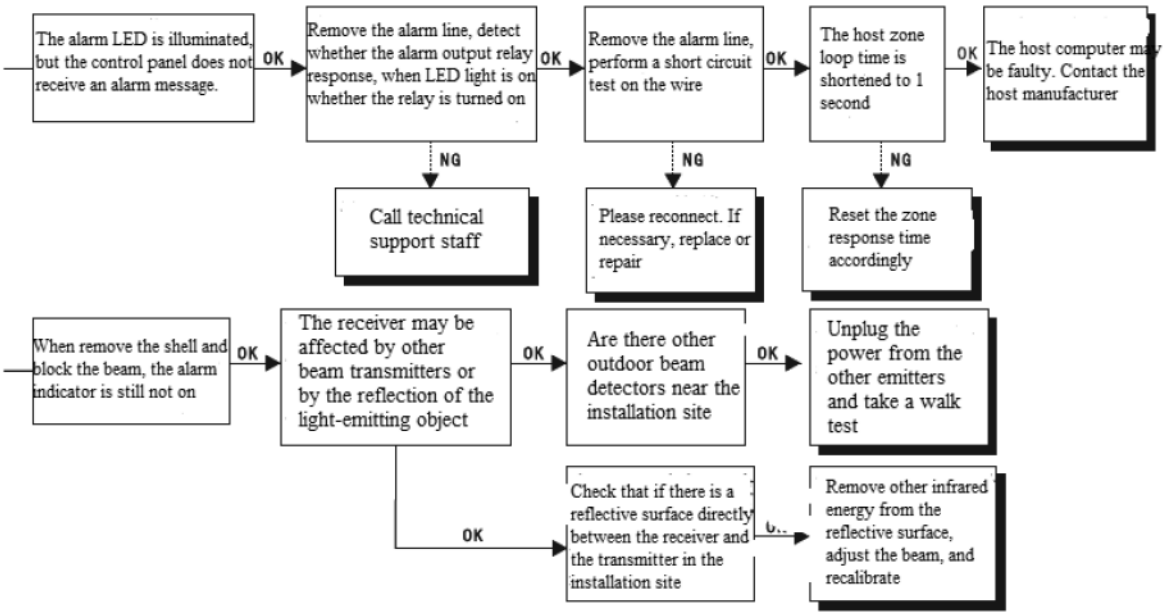
*Note: When the ambient temperature is below -20℃, please buy the "heater", which is the polarity of the heater at both ends of the lead wire required.

XIII. Fault handing

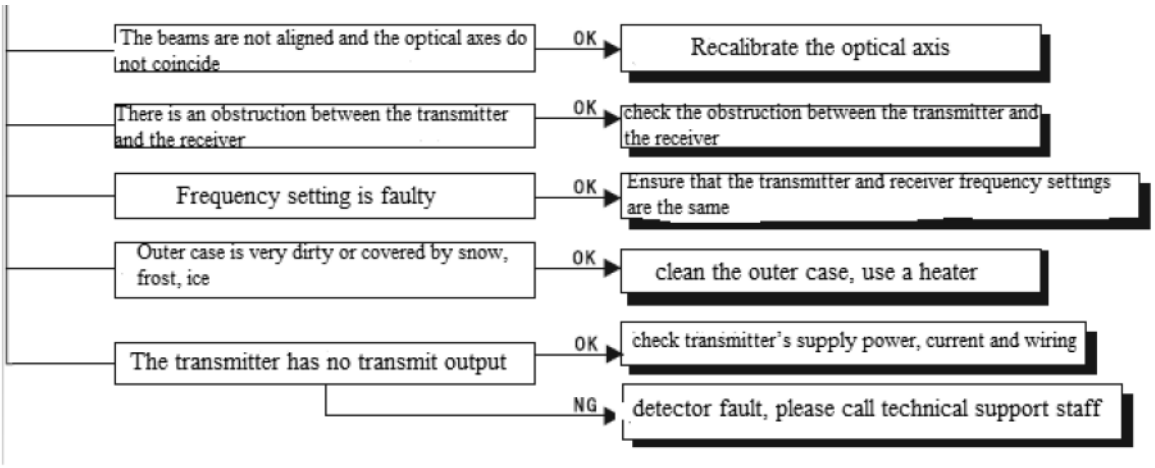
1. After power-on, the transmitter or receiver indicator does not light and does not respond.



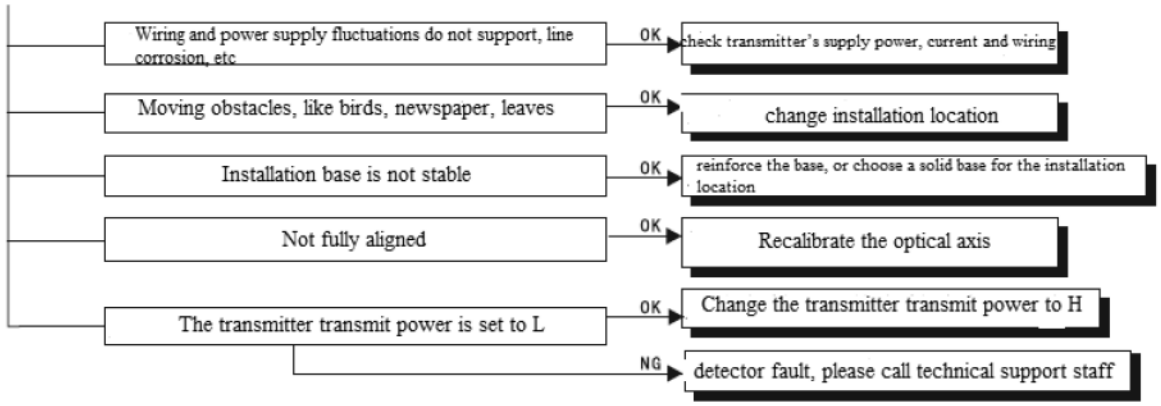
2. When beam is totally blocked, the alarm light isn't on and alarm has no output.



3. When beam isn't blocked, the alarm light is always on and alarm has output.



4. Misinformation



XIV. External dimensions