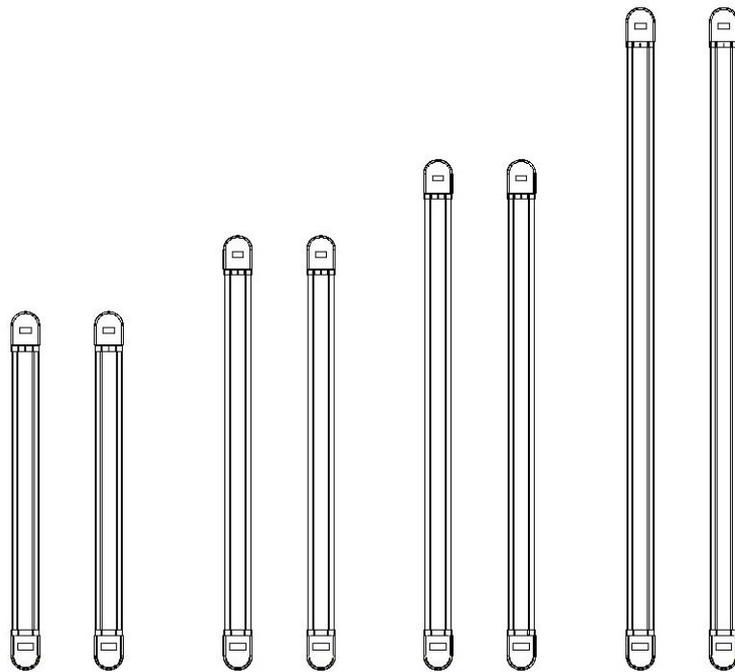


Security

Instruction Manual

Infrared Guardrail Beam



Outdoor ~ 20m

Thank you very much for choosing our product. Make sure that you read this manual before use. This will assist in getting the best performance from the product.

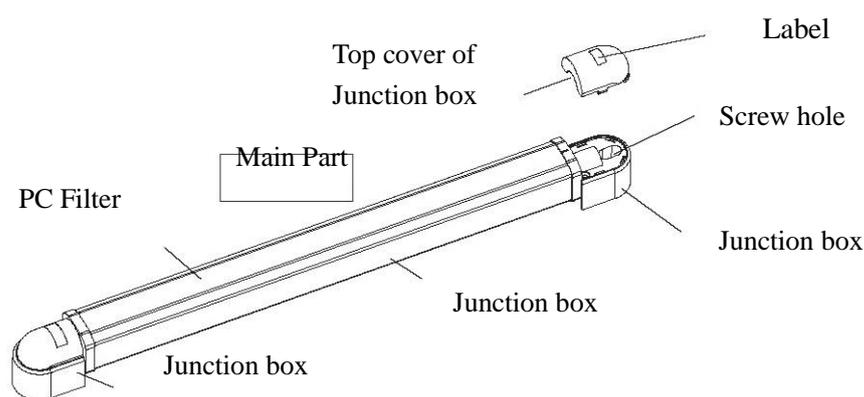
1. Summary

The indoor and outdoor dual-multi-beam active infrared detector is a modern high-tech product, offering simple and convenient installation and operation, and is pleasing in appearance. Possible applications are numerous, e.g. offices, schools, villas, factories, etc., or wherever there is a need to guard or alarm an area. A curtain-type beam will effectively protect your safety and avoid damage to property.

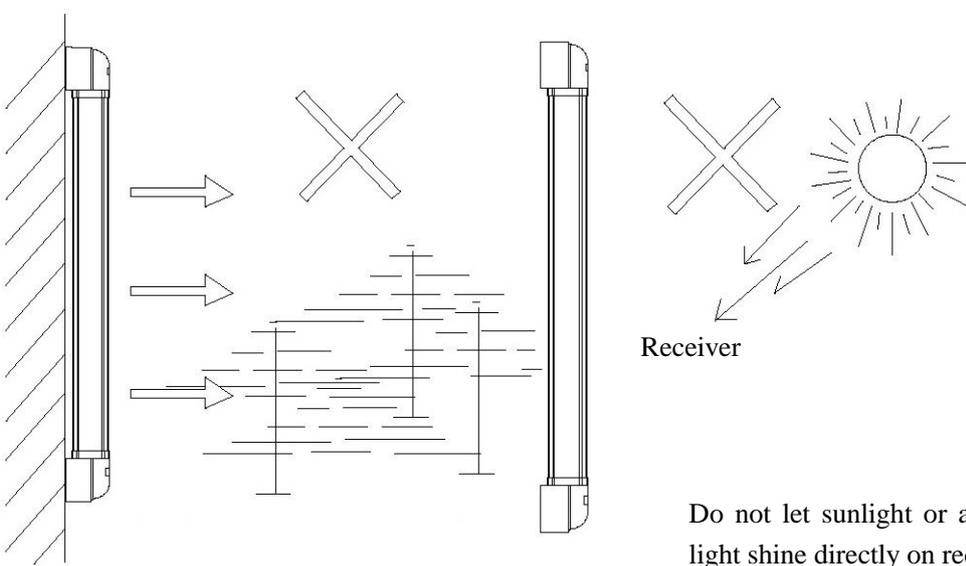
2. Performance

1. Application: This unit utilizes multi-beam and dual-beam identification principles. When the protected area is breached, and two or more adjacent infrared beams have been obstructed, an alarm signal will be sent out. Traditional false alarms are thus minimized by this design.
2. Identifying objects: The unit will distinguish between small objects, e.g. cats, dogs, birds, and will only trigger the alarm when larger images, like human intruders, are detected.
3. High Reliability: By utilizing advanced technology, the product is protected against tampering or interference by intruders.
4. Expansion compatibility: By adding optional Wireless modules (not included), the Alarm signal may be transmitted to a compatible wireless alarm controller.
5. Water-resistant: For outdoor use, the unit has been designed to be water and moisture-resistant.
6. Superb construction: The outer housing uses a double-shell structure, with the outer layer manufactured from high quality, aluminum alloy, and the inner layer of PVC engineered plastic. These combined layers protect the internal circuitry from moisture, improving the safety and long-service aspect, without detracting from the stylish design.
7. Simple installation: When installed appropriately, the transmitter and receiver can be mounted to achieve 180-degree rotation. Light output settings may be adjusted according to installation distance.

3. Description of Components



4. Precautions for Installation



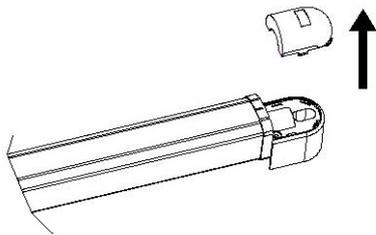
Do not mount near trees, bushes,
or other leafy vegetation.

Do not let sunlight or any direct beam of
light shine directly on receiving sensor

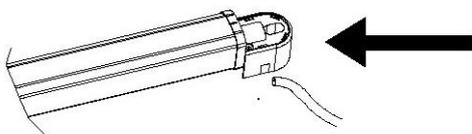
1. Mounting brackets must be sturdily installed to the wall, in order to avoid becoming loose or detached, which will result in failure to operate correctly and efficiently.
2. There should be no obstructions between transmitter and receiver. (e.g. Tree, bush, wall, etc.)
3. Avoid direct sunlight, lamplight or other strong lights from shining directly on the receiver.
4. This product requires a stabilized power supply of DC 12V-18V. An ideal choice is rechargeable accumulator backup batteries. Do NOT use an unregulated power supply, as this may cause the system to malfunction and damage the electronic circuitry.
5. When synchronous mode is selected, the transmitter and receiver must be connected to the power supply negative.

5. Installation method

1. Remove the cover

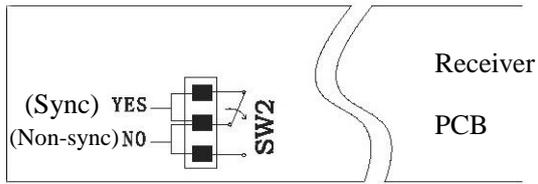


2. Pass the cable through the wiring hole, leaving sufficient length of cable for internal connections.

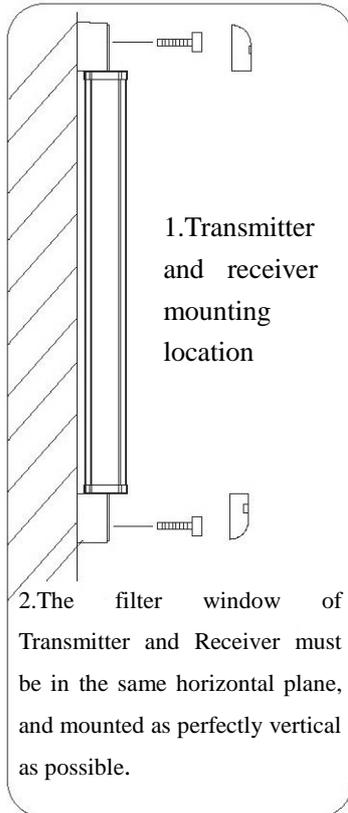


3. Working Mode Selection

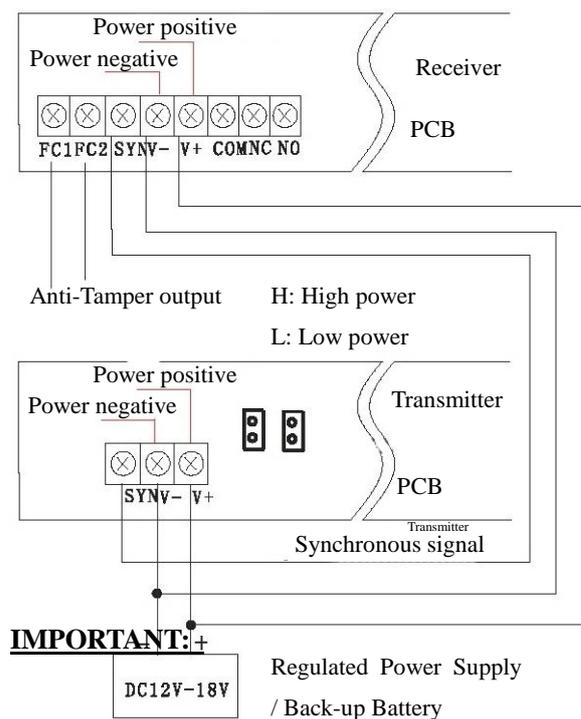
When SW2 is in “yes” position, the sensor will work in synchronous mode, in “NO” position the sensor will work in asynchronous mode.



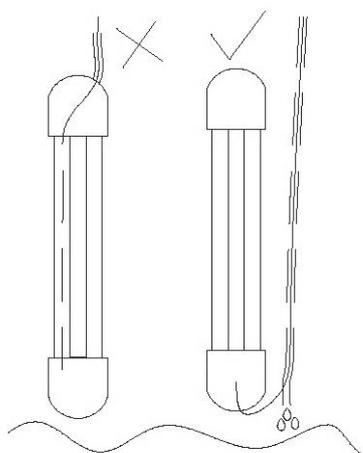
4. Installation of Sensors for guarding an area



5. Connection methods



When installing outdoors, please ensure connecting cables are positioned as shown in the sketch below, to prevent water entering the detector through the cable, and causing serious problems, such as false alarms, short circuits, rusting of copper circuitry, etc.



When sensors work in synchronous mode, SW2 should be in “YES” position. However, when buzzer and receiver are powered differently, power negatives should be connected on both units.

6. Drill the installation holes on the wall with 6mm diameter drill bit, drive in the plastic plug, and mount the bolt sleeve, then fasten mounting brackets with M3*40 bolts.

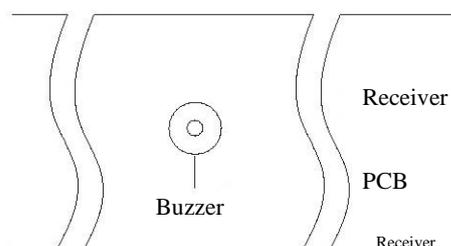
7. Confirm the transmitter and receiver are communicating correctly: When switching the power supply on, the transmitter power green indicator will be brightly lit up, and the receiver’s red indicator will be off.

8. Tighten the fastening bolts on transmitter and receiver mounting brackets, then close up, by fitting the covers over the brackets.

9. The receiving sensor will send out wired/wireless signals in the event of any instances below:

- A: Two or more adjoining infrared beams are cut off or obstructed by an object.
- B: Power supply wire is intentionally cut or damaged.

6. Debug tips

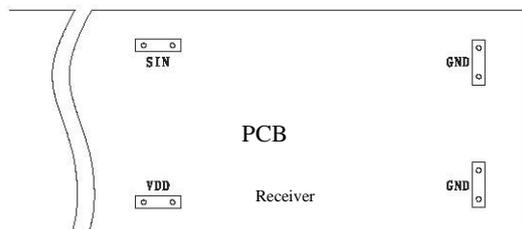


Optical axis adjustment method:

1. Set the receiver SW1 to “ON” position.
2. Connect transmitter and receiver to the power supply.
3. Align transmitter and receiver respectively in horizontal direction of rotation. When buzzer sounds, the alignment is correct.
4. If the units have not been able to align, the buzzer will make a sound, and the red LED for the receiver’s alarm indicator will light up.
5. Once alignment is completed, switch SW1 on the receiver to the “OFF” position.

6. Adjustment for power: Buzzer can be adjusted according to distance between transmitter and receiver.; This is adjusted to avoid false alarms. Position H is for high power; L is for low power; Center position is for medium power.

7. Wireless module installation



1. A wireless module suitable for this unit may be installed to enable a wireless link to a multi-zone alarm controller.
2. The Wireless module should be coded with the alarm controller, in order to receive an alarm signal from the sensor.

8. Activation Confirmation

After setting, please be sure to conduct a walking test, which will confirm the correct activation of the sensors according to the following table:

Name	State	Indicator
Transmitter	Power on	Green LED on
Receiver	Armed/Protecting	Green LED on, Red off
	Alarming	Red LED on

9. Technical parameters

Model	YL-ZL02-20M					
The number of beams *	2 beam	3 beam	4 beam	6 beam	8 beam	10 beam
Height *	408mm	528mm	708mm	1228mm	1628mm	2028mm
Working voltage	DC 12V ~ 18V					

Current	Transmitter*	15 ± 3mA	20 ± 3mA	22 ± 3mA	40 ± 3mA	47 ± 3mA	58 ± 3mA
	Receiver*	40 ± 3mA	42 ± 3mA	44 ± 3mA	46 ± 3mA	48 ± 3mA	50 ± 3mA
Response time		≅ 0.1sec					
Relay contact capacity		1C, 30V AC/DC, 0.5Amax					
Environment		-25°C ~ +55°C, RH ≅ 95%					
Distance		5 ~ 20m					
Alarm output		Wired, Optional wireless					
Relay action time		Open time ≧ 1.5s					
Adjustable angle		Horizontal 180° (±90°)					
Material		PC plastic and aluminum alloy					

* Variations, dependent on relevant models

10. Troubleshooting

Fault indication	Fault diagnosis	Countermeasure
Transmitter or receiver indicator does not light	Abnormal power supply voltage(short circuit or open circuit)	Check the power supply and wiring
When the beam is blocked, the receiver alarm indicator light does not shine	Reflected or other transmitter light interference picked up by the receiver	Remove reflecting objects or change the optical axis
When the receiver is shaded, the alarm indicator lights up, but no alarm is sounded	Signal line short-circuit or open circuit	Check wiring
	Bad connections or contacts	Check connections
False alarm	Supply voltage fluctuation	Check supply voltage, and regulated power supply
	Installation base instability	Choose a secure location and reinstall the units
	Optical axis is not accurately aligned	Re-adjust the optical axis to the optimum position