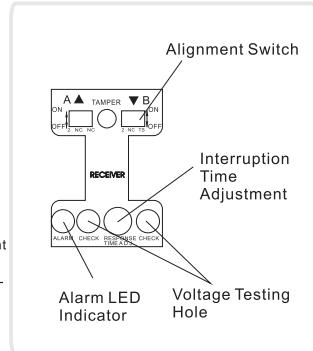
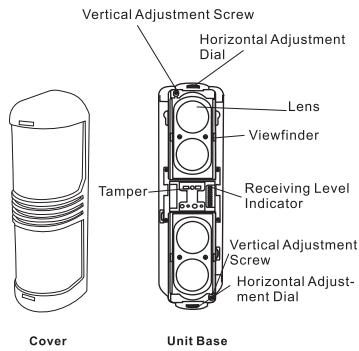


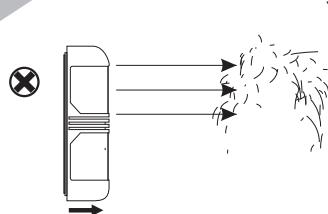
PHOTOELECTRIC QUAD BEAM DETECTOR

Manual

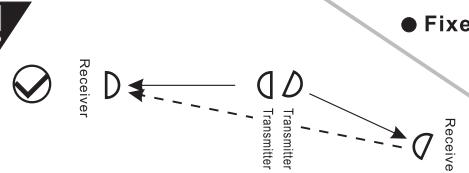
1 Parts Description



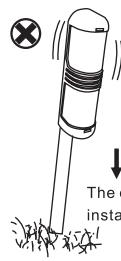
2 Setting Notice



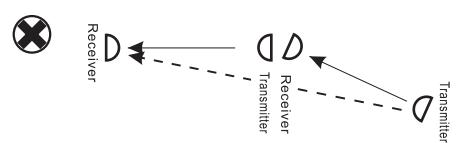
Where there are blocks between receiver and transmitter.



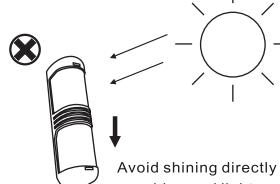
In case of long distance detection, it is likely to result in missing report because the beams of the detectors may shoot to another receiver caused by the dispersion. Please set as above, but not as below.



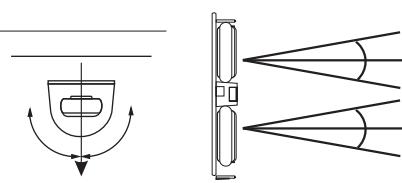
The detectors should not be installed on unstable base.



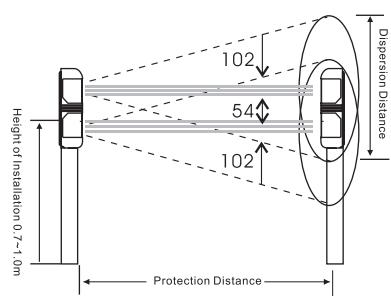
Because the angle of aspherical lens are adjustable $\pm 90^\circ$ horizontally and $\pm 10^\circ$ vertically, the unit can be installed in various directions.



Avoid shining directly by sunshine and lights.



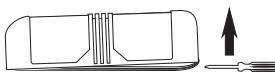
Type	Protection distance	Dispersion
SF50H	50m	2.0
SF150H	150m	3.1
SF250H	250m	4.5



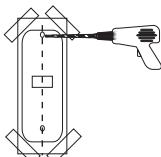
3 Setting method

S FIRE

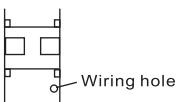
1. Loosen the screws on the top of the detector, and remove the cover.



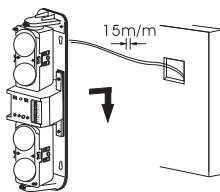
2. Put the mounting sample paper at the mounting place, and mount the detector according to the paper.



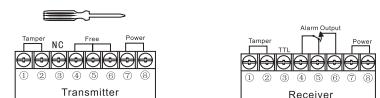
3. Carefully drill the wiring knockouts and pull wire through.



4. Fix the base unit firmly on the wall.



5. Connect wires to the terminals.

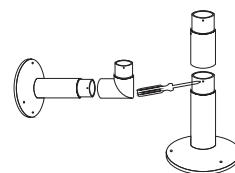


Note: TTL is used to count passing objects when connected to arithmometer.

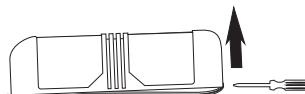
6. Fix the cover after beam interruption time is set.

● Fixed Bracket Mounting

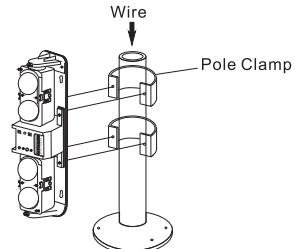
1. Punch the wire hole on the bracket, then pull out the wires.



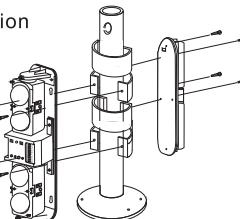
2. Remove the cover.



3. Fix the base unit on the bracket.



Two units installation (back to back)



The Wiring Distance

Diameter \ Voltage	DC12V	DC24V
0.5mm ² (Diameter 0.8)	300m	600m
0.75mm ² (Diameter 1.0)	400m	800m
1.25mm ² (Diameter 1.2)	700m	1400m
2.0mm ² (Diameter 1.6)	1000m	2000m

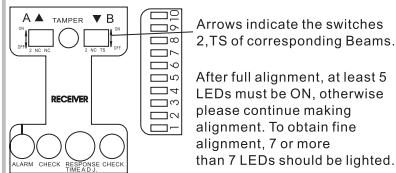
PHOTOELECTRIC QUAD BEAM DETECTOR Manual

4 Beam Alignment

High Accurate Alignment

- (1) Remove the cover and apply the power.
- (2) Look into the viewfinder at a distance of 10CM, and adjust the Lens horizontally and vertically, so that the receiver or transmitter can be seen in the centre of the sight.
- (3) Switches 2 of the transmitter and receiver OFF, and switch TS ON; (Please refer to <Switch2, TS and LEDs below>)
- (4) Upper Beams Alignment(Group A).
Switch 2 of the Group A ON, and adjust the Lens horizontally and vertically to make the most LEDs ON, at least 5 LEDs ON; Switch 2 of the Group A OFF after alignment.
- (5) Lower Beams Alignment(Group B).
Switch 2 of the Group B ON, and adjust the Lens horizontally and vertically to make the most LEDs ON, at least 5 LEDs ON.
- (6) After full alignment, all switches 2 ON, and switch TS OFF.
- (7) Cover the base.

Switches 2, TS and LEDs



Quick Alignment Method

- (1) Remove the cover and apply power.
- (2) All switches 2 and switch TS ON.
- (3) Upper Beams Alignment(Group A): Using a cardboard or the like to block the lower beams of Group B, adjust Lens horizontally and vertically to make the most LEDs ON.
- (4) Lower Beams Alignment(Group B): Using a cardboard or the like to block the upper beams of Group A, adjust Lens horizontally and vertically to make the most LEDs ON, then remove the cardboard, at least 5 LEDs ON (Recommend more than 7 LEDs).
- (5) Switch TS OFF and put the cover back.

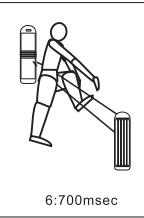
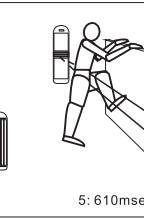
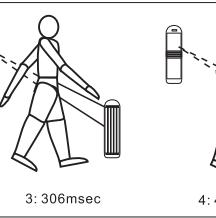
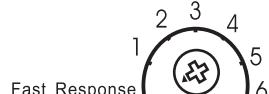
LED Indicator and Monitor Jack Output

LED	5	6	7	8	9	10
Monitor jack output	1.15V	1.30V	1.45V	1.60V	1.75V	1.85V

5 Beam Interruption Adjustment

Please refer to the above figure to adjust interruption time.

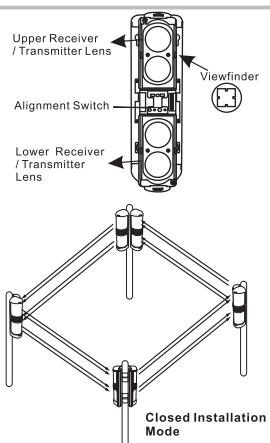
Generally, the interruption time should be less than the real blocking time.



6: 700msec

6 Trouble shooting

S FIRE



Symptom	Possible Cause	Remedy
Transmitter LED dose not light.	Improper voltage supplied.	Check the power supply and wiring.
Receiver LED dose not light.	Improper voltage supplied.	Check the power supply and wiring.
Alarm LED dose not light, even when beams are blocked.	1. Beams reflected to the receiver by the other objects. 2. 4 beams are not blocked simultaneously. 3. Interruption time is too short.	1. Remove the reflecting object or change Lens direction. 2. Block 4 beams simultaneously. 3. Prolong the interruption time.
When the beams are blocked, the receiver LED is ON, but not alarm.	1. Wring is short circuit. 2. Wiring point is not good.	Checking wiring and connection spot.
The alarm LED indicator of the receiver is always on.	1. Lens is not properly adjusted. 2. There are blocks between the transmitter and receiver. 3. The detector covers are dirty.	1. Adjust the Lens directions. 2. Remove the blocks. 3. Polish the cover with soft cloth.
Intermittent alarm	1. Bad wiring. 2. Supplied voltage can't reach 12V 3. Movable blocks between the transmitter and the receiver. 4. The installation base is unstable. 5. Improper Lens direction. 6. Blocked by other moving objects. 7. The interruption time is too short. 8. 5 LEDs do not light when uncover	1. Check wiring. 2. Check the power supply. 3. Remove the blocks or relocate. 4. Fix the mounting. 5. Adjust the Lens direction.. 6. Adjust interruption time or change installing position.

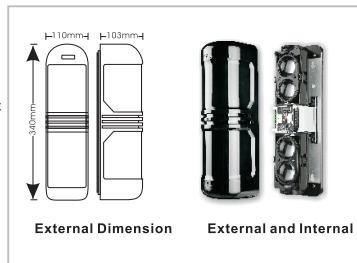
7 Specification

Type	SF50H	SF150H	SF250H
Protection Distance (Outdoor)	50m	150m	250m
(Indoor)	150m	450m	750m
Beam Characteristics	Pulsed Infrared		
Viewfinder	Removable		
Heater	Options		
Alignment Level	10 Alignment LEDs		
Alarm Output	Form C Relay (DC30V/0.5A MAX)		
Alarm Period	2sec (± 1) Nominal		
Current Consumption	95mA	100mA	100mA
Interruption Period	50-700msec Selectable		
Power Input	DC12-24V;AC11-18V		
Tamper Switch	NC opens when cover is removed		
Alignment Angle	180° ($\pm 90^\circ$) Horizontal, 20° ($\pm 10^\circ$) Vertical		
Operating Temperature	-25°C ~ +55°C		
Environment Humidity	95% Max		
Mounting	Wall or Pole		
Weight	3.1kg(Transmitter and Receiver)		
Appearance	PC Resin(Black)		

8 Installation Bracket and Detectors Dimension

Installation Bracket(Optional)

T-Shaped Bucket	T-100 100×120mm	I-Shaped Bucket	I-100 100mm
	T-200 200×120mm		I-200 200mm
L-Shaped Bucket	80×75mm		



S FIRE

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