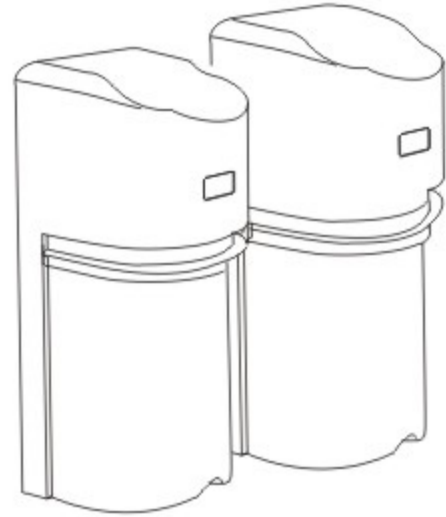
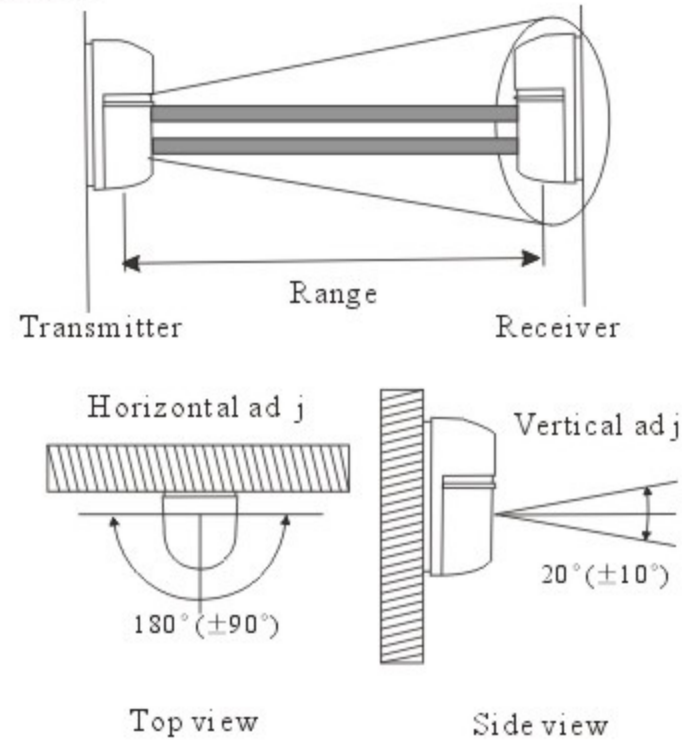


TWO BEAM INFRARED PHOTOBEAM SENSOR

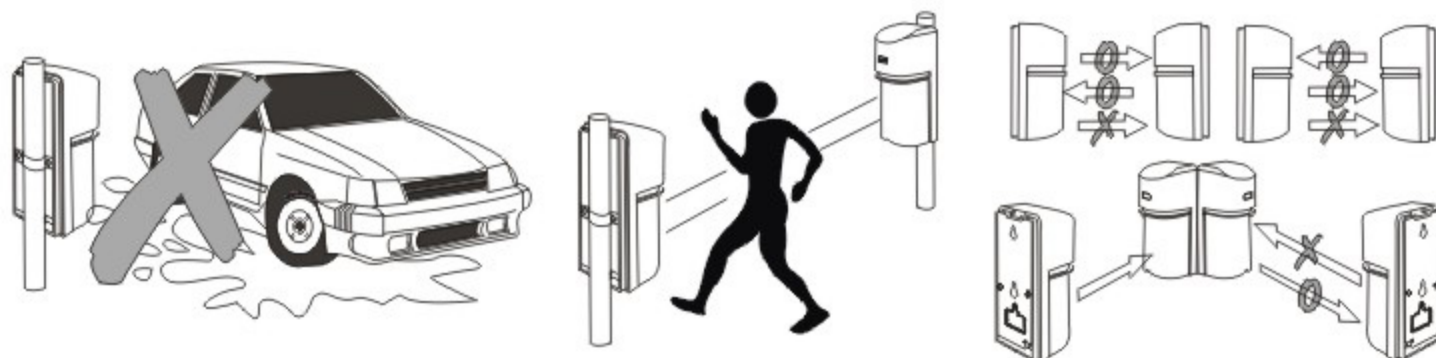
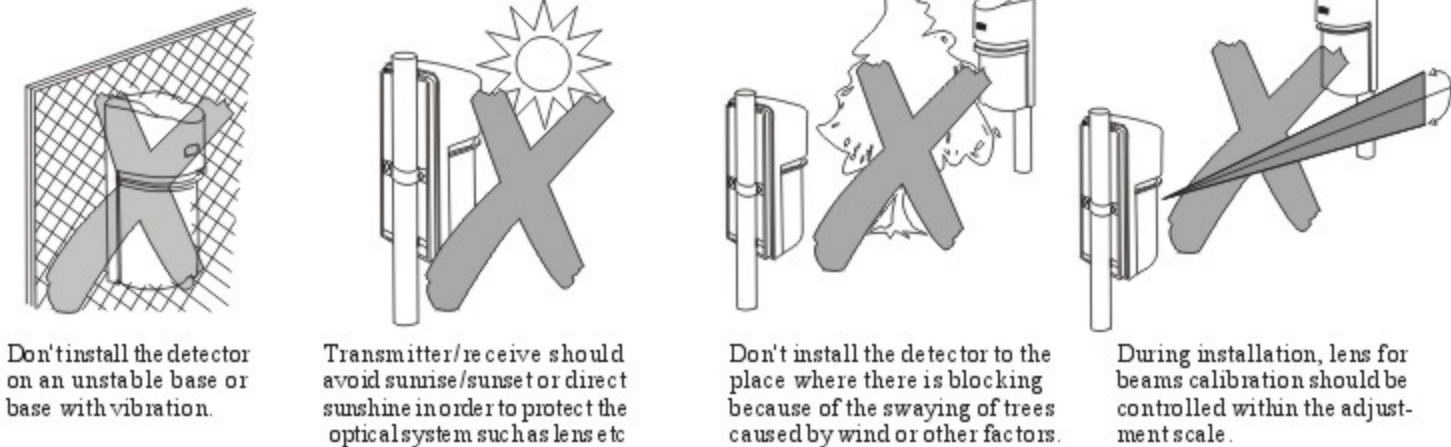
Installation instructions

Summarize

design with two infrared beams detection. When intruder enter and run across the infrared beams, alarm relay on the receiver gives reaction of output; this detector adopts simultaneous-block-alarm mode: only when the upper and lower 2 beams are blocked at the same time, alarm relay can detect and make an output, in this way, it can avoid false alarm caused by small animals, falling leaves, birds etc.

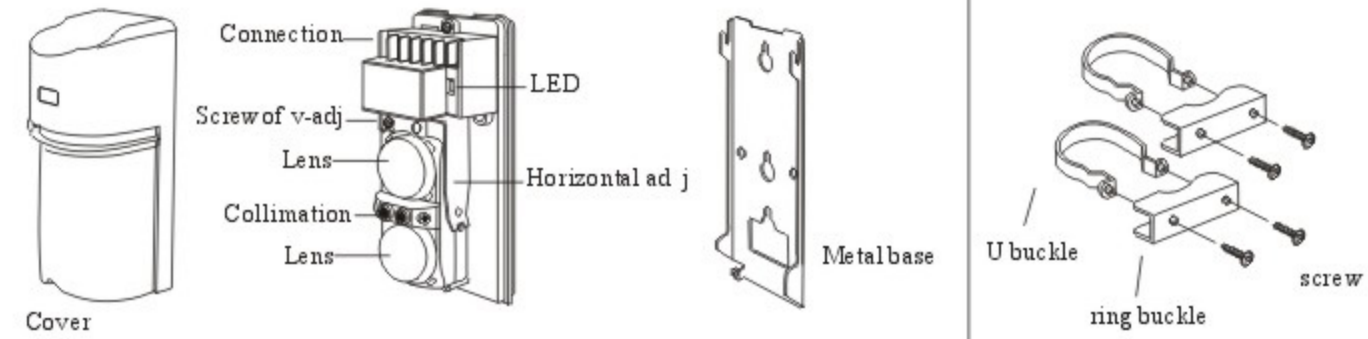


Notice during installation

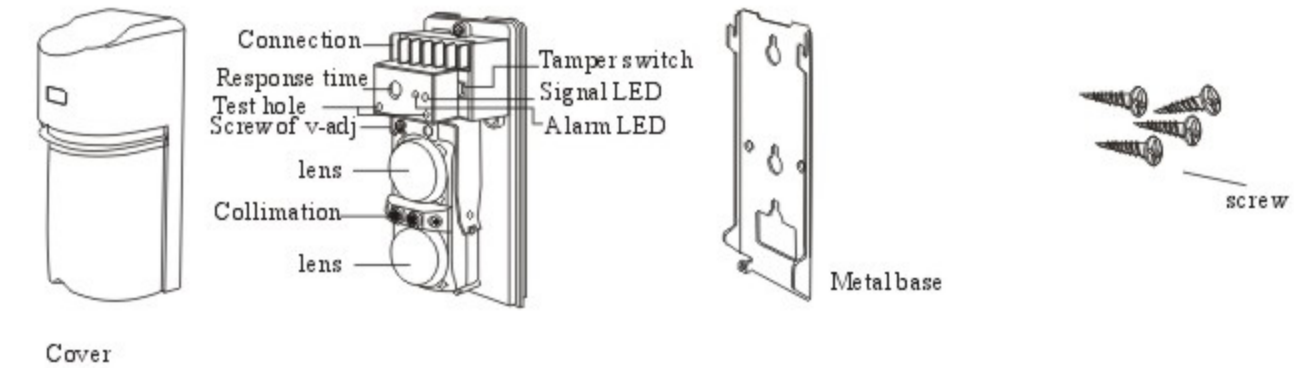


Name of parts

Transmitter



Receiver



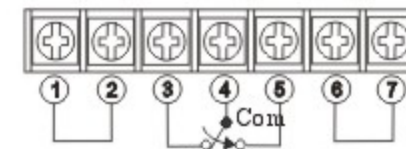
Connection

Transmitter



Power (nonpolarity)
10-30VDC

Receiver



Power (nonpolarity)
10.8-18VDC

Com
Nc No Alarm
Tamper

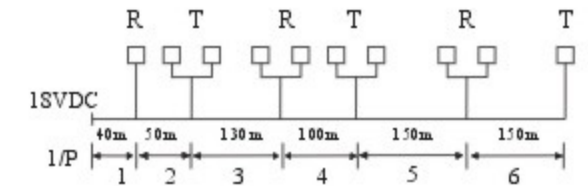


Diagram for copper cable impedance.

0.3mm ² (Ø0.65)	118Ω/km
0.5mm ² (Ø0.80)	70Ω/km
0.75mm ² (Ø1.0)	46Ω/km
1.25mm ² (Ø1.2)	32Ω/km
2.0mm ² (Ø1.6)	19Ω/km

R: Receiver
T: Transmitter

For example use 0.75mm²

District	1	2	3	4	5	6
District power supply	300mA	270mA	210mA	150mA	90mA	30mA
District resistance	1.8Ω	2.3Ω	5.9Ω	4.6Ω	6.9Ω	6.9Ω
District pressure drop	0.54V	0.62V	1.24V	0.69V	0.62V	0.2V

District Receiver=Transmitter, I=30mA

Entire pressure drop: 0.54+0.62+1.24+0.69+0.62+0.2=3.91

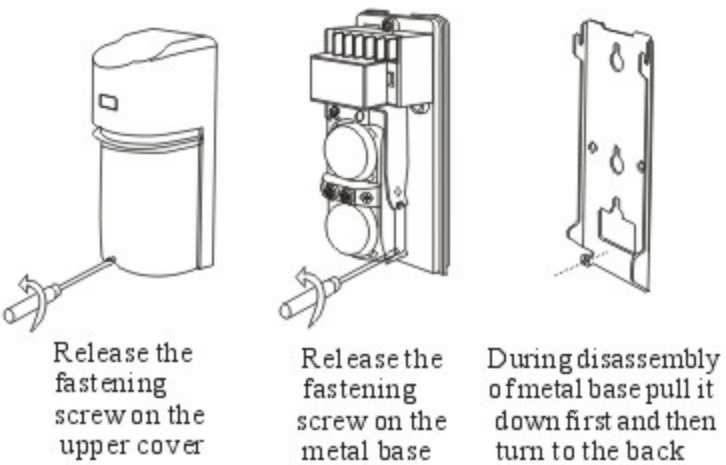
Extremity pressure: 18v-3.91v=14v

Conclusion: voltage supplied is in the applicable range.

Installation way

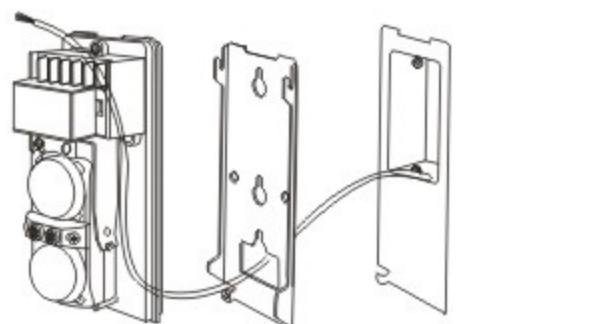
A. wall mount

1. Open the cover and remove metal base



2. Lead the power cable across the back part of metal base, and then fasten it to the installation position by self-tapping screw

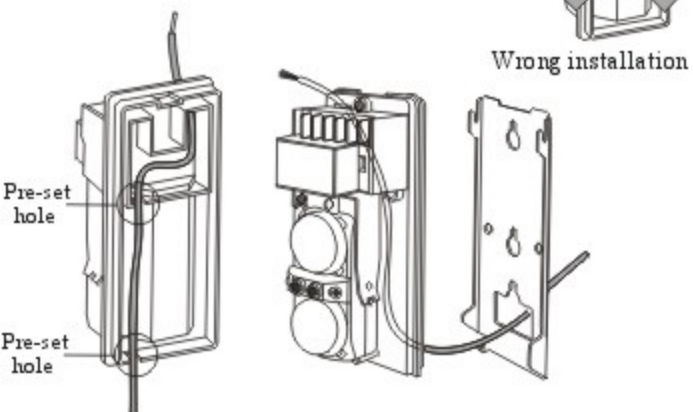
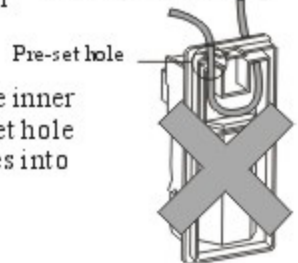
3. Get through the pre-set hole, and arrange the cable as below figure, then fasten it to the metal base



4. Notice for outdoor installation

Don't lead the power cable to the inner body of detector from the pre-set hole on top in order to avoid rain goes into the back base along the cable.

Avoid power cable going across from the pre-set hole on top

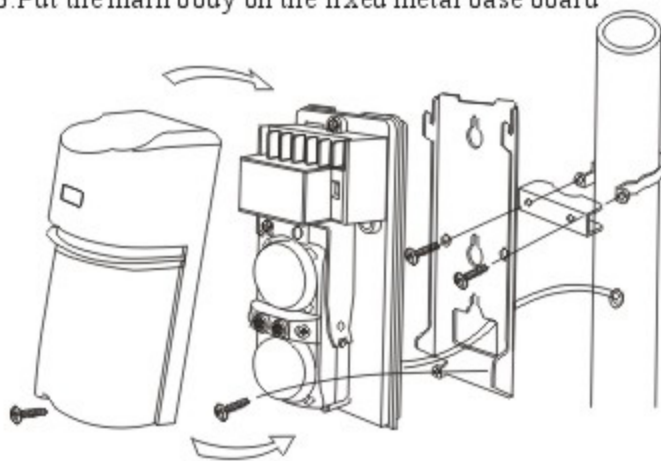


It should go inside from the bottom

Correct installation: lead the power cable to the inner side from the pre-set hole at bottom; or lead it inside from the metal base board

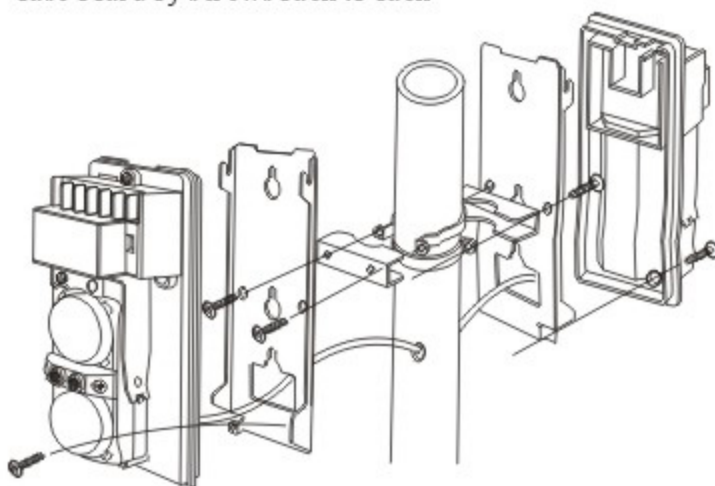
B. Bracket mount

1. Use 1# round brace
2. Use ring buckle and U buckle and metal base board, use a screw to fasten these three things on the bracket
3. Put the main body on the fixed metal base board

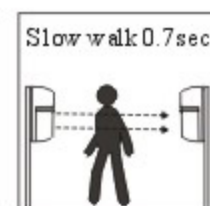
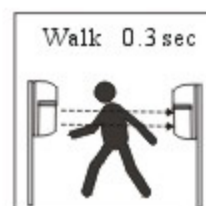
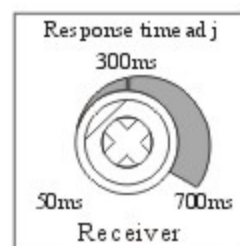


C. Installation mode for back-to-back bracket

use 2 groups of ring buckle or U buckle and fasten the metal base board by screws back to back



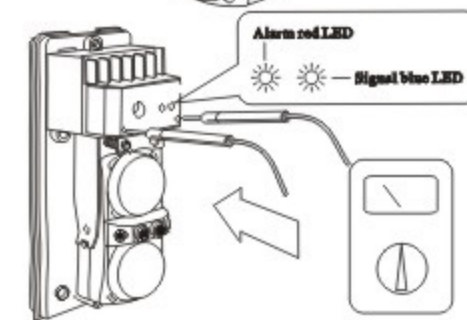
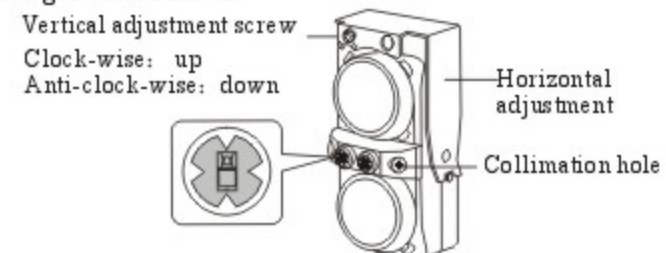
Response time adjustment



Note: during installation, (response time) test should be performed on the installation place in order to get the very fit (response time) for the purpose of detection and protection.

Optical axis adjustment

1. Offer proper power supply to transmitter and receiver
2. Adjust the vertical and horizontal angles of transmitter and receiver individually, watch it from the collimation hole between the two lens till the main part of transmitter/receiver on the other side falls into the middle of (collimation hole).
3. Make a profound adjustment on the receiver optical axis till the blue LED indicator for beams strength lights
4. Put the attenuation test paper in front of the lens of receiver, and adjust the optical axis profoundly till the blue LED indicator for beams strength lights
5. When detector is installed outdoor, in order to get the accuracy of optical axis adjustment, except for the 4th require, it is necessary to test the value of DC voltage for beams strength with a meter



Monitoring

Monitoring	RX:Blue LED	Condition
Less than 3.0V	OFF	Alignment Again
3.0V-3.7V	ON	Alignment good
3.7V-4.1V	ON	Very good

Note: The above DC voltage is test result without covering the cover of receiver

Methods to clear trouble

Troubles	Possible reasons	Solution
Power supply indicator doesn't light (transmitter)	1. No power supply 2. Poor contact in wire connection, short circuit or circuit is damaged	1. Connect it with proper power supply 2. check the circuit
When two infrared beams are blocked, alarm indicator doesn't light (receiver)	1. No power supply 2. Poor contact in wire connection, short circuit or circuit is damaged 3. Infrared light transmitted to other object and gives reflection to the receiver 4. 2 beams are not blocked simultaneously 5. Beams blocking speed is shorter than the set response time	1. Connect it with proper power supply 2. check the circuit 3. Remove the reflection object, change the beams transmission direction 4. Block the 2 beams simultaneously 5. Reset the response time
Alarm LED keep lighting (receiver)	1. Beam adjustment not accurate 2. There are some obstructs between the transmitter and receiver 3. There are some feculences on the lens or cover	1. check the beams and make relevant adjustment 2. remove the obstructs between the Tx and Rx 3. clean the lens and cover
Intermittent alarm	1. Poor circuit connection 2. Unstable power supply 3. There are some obstructs between the transmitter and receiver 4. Transmitter or receiver is too close to other power supply equipments and Gets strong electromagnetic wave interference 5. Transmitter or receiver are installed in a improper situation 6. transmitter or receiver is covered with some feculences 7. Improper adjustment (such as poor focusing adjustment) 8. There are small animals run across the 2 beams	1. connect with proper power supply 2. supplied with stable voltage 3. remove the obstruct 4. Change installation place, keep it away from interfeferential sources 5. Re-find a proper installation place 6. Clean the lens or cover with soft cloth 7. Re-check and adjust it 8. Reset the response time to be longer or adjust its installation height to avoid small animals

Specifications & Dimensions

Model	STB-40		
Range (outdoor)	40m		
Infrared beam	Double modulation pulsed beams IR LED		
Lens system	Fresnel Lens		
Response time	50-700ms		
Supply voltage	DC 10.8-18V		
Current	Tx 23mA Rx 15mA	Tx 34mA Rx 15mA	Tx 45mA
Alarm time	2 secretary		
LED	Tx: green Rx: Alarm: red signal good: blue(green)		
Alarm output	NO & NC 1A/120VAC 2A/24VDC		
Tamper output	1A/120VAC	Vertical: 20° (±10°)	
Beam adjustment	Horizontal: 180° (±90°)		
Mounting position	Outdoor/indoor		
Temperature	-25°C/+55°C		
Weight	760g		
Material	Cover: PC resin Base: ABS resin		

