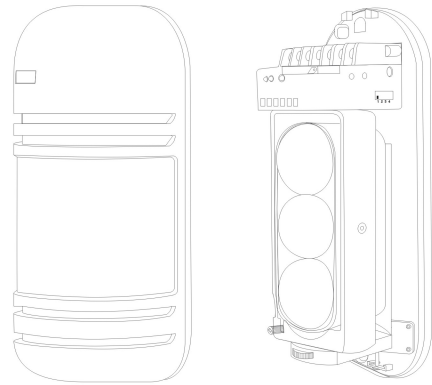


BEAMS ACTIVE PHOTOELECTRIC DETECTOR WITH DIGITAL FREQUENCY CONVERSION

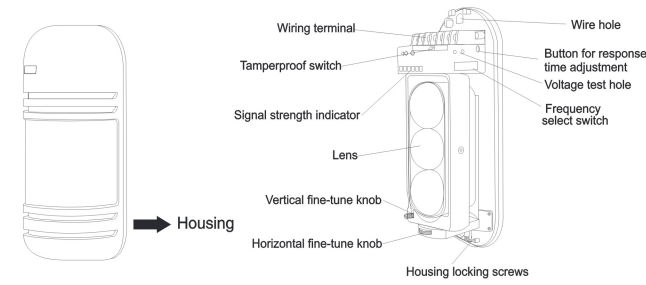
INSTALLATION GUIDE



Model:

- Three Beam-50 (Outdoor 50m, Indoor 150m)
- Three Beam-100 (Outdoor 100m, Indoor 300m)
- Three Beam-150 (Outdoor 150m, Indoor 450m)
- Three Beam-200 (Outdoor 200m, Indoor 600m)
- Three Beam-250 (Outdoor 250m, Indoor 750m)

I. Part Name



Signal strength receiving indicator. In the diagram, after adjustment of the beam, the level 5 shall light up. Otherwise, adjust again. It is strongly recommended that it should be adjusted to the point until level 7 or higher lights up.

INFRARED DETECTOR TRANSMITTER

INFRARED DETECTOR RECEIVER

- Power transmit indicator
- LEVEL: Indicators turn on when the beam aligns. Specific alignment accuracy refer to signal strength receiving indicator.
- ALARM: The indicator turns on when alarm presents.
- GOOD: The green indicator turns on when the beam aligns with the receiver. If fails to align, the indicator will OFF.

II. Precautions for setting

Multi sensors may be used for long-distance guarding. Please install according to the below diagram to avoid interference between beams.

Adjustable angle: horizontal $\pm 90^\circ$ vertical $\pm 10^\circ$

Horizontal $\pm 180^\circ$ ($\pm 90^\circ$) Vertical $\pm 10^\circ$

Style	Guarding distance	Beam spread diameter
50	50m	1.5m
100	100m	3.0m
150	150m	4.5m
200	200m	6.0m
250	250m	7.5m

III. Setting procedure

- Remove the cover
- Attach the paper stencil onto the location where the equipment is to be mounted, and drill the holes in the positions on its mark.
- Put the cable through the hole for wiring.
- Fix the main body onto the wall
- Connect the cable to the wire terminal.
- Put on the cover after adjusting the response time of the beam.

Installation of fixed bracket

- Drill a hole on the bracket and extend out the cable from it.
- Remove the cover.
- Fasten the base-plate to the bracket.

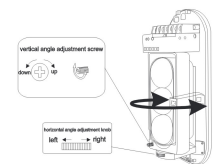
(Back-to-back installation guiding diagram)

Wire dia.	distance	voltage	DC12V	DC24V
0.5mm($\phi 0.8$)	300m		300m	
0.75mm($\phi 1.0$)	400m		800m	
1.25mm($\phi 1.2$)	700m		1400m	
2.0mm($\phi 1.6$)	1000m		2000m	

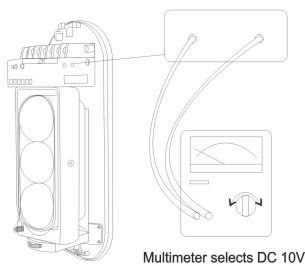
IV. Beam alignment

Visual test method

- Remove the cover and connect power.
- Adjust the beam frequency of transmitter and receiver to the same channel.
- Observe the collimation effect at a distance of 5cm from the viewfinder. Adjust the upper / lower angle regulation screw and horizontal adjustment wheel in order that the image of opposite detector falls into the central part of the viewing hole.
- Adjust the vertical adjustment screw and the horizontal



Note: the more the signal strength indicator lights up, the higher the beam alignment is.



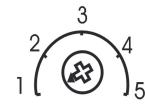
Voltage test method

- Insert the test pen into the test hole (please note the +, - polarity)
- First adjust the horizontal angle until the test hole voltage output maximize. Then adjust the vertical angle by the same way.

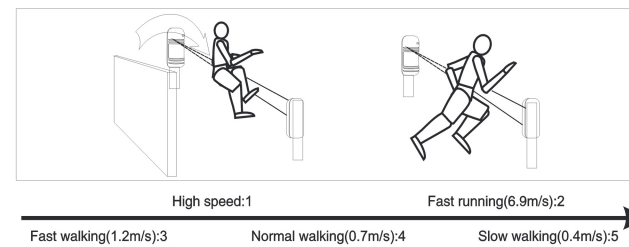
Multimeter selects DC 10V

Note: In the diagram, after adjustment of the beam, the level 5 of the reception/transmission LED shall light up. Otherwise, adjust again. It is strongly recommended that it should be adjusted to the point until level 7 or higher lights up.

V. Beam response time adjustment



Please see the diagram to adjust the response time of the receiver. Usually, the time set shall be less than the time when the intruder crosses the guarding area.



VI. Physical test

Walking test is required after the setting, physical test in accordance to below diagram.

	State	Signal
Transmitter	Transmitting	The 2 indicators of green LED light up
	Guarding	GOOD LEVEL indicators light up
Receiver	In alarm	The red ALARM indicator light up

VII. Trouble checking

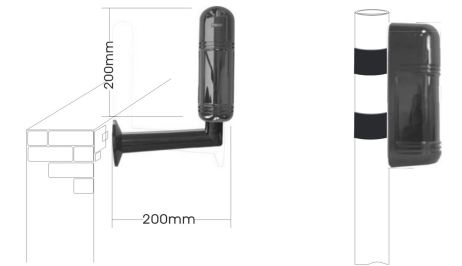
Fault	Cause	Solution
The LED of the transmitter doesn't light up	Power failure (open circuit, short-circuit, etc.)	Check the power wiring
The LED of the receiver doesn't light up	Power failure (open circuit, short-circuit, etc.)	Check the power wiring
The LED of the receiver doesn't light up when the light is blocked	1. By reflecting, or light from other sources enter the receiver 2. Both beams are not blocked at the same time 3. Response time is set too short	1. Remove the reflecting object or change the direction of beam 2. Block both beams at the same time 3. Prolong the response time
The receiver alarm indicator ON after the beam is blocked, but there is NO alarm signal output	1. Broken circuit or short-circuit of the wiring 2. Poor contact	1. Check the wiring and contact 2. Connect the cable
The alarm indicator of the receiver is constantly ON.	1. The beam doesn't match closely 2. There is obstacle presents between the transmitter and the receiver 3. The cover is polluted.	1. Re-adjust the beam 2. Remove the obstacle 3. Clear the cover
Intermittent alarm signal output	1. Improper wiring 2. The supply voltage does not reach 19V or higher 3. The potential obstacle appears to block the beams due to the effect of wind and rain 4. The installation base unstable 5. The beam coincidence accuracy is inadequate 6. Beams blocked by other moving objects 7. Response time too short 8. Level 5 LED does not light up before the cover is put on	1. Check the wiring 2. Check the supply power 3. Remove the obstacle or change the location 4. Select a site with a stable base 5. Re-adjust the optical axis 6. Adjust the shade time or change the install location 7. Re-adjust the response time 8. Re-adjust the optical axis, and make the signal reception reaches its top.

VIII. Technical parameters:

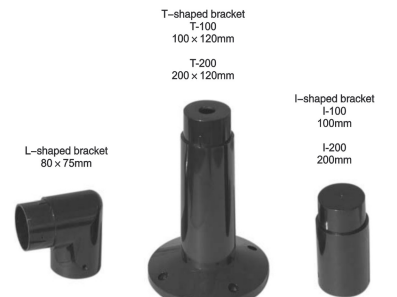
Model	50	100	150	200	250
Alert distance	Outdoor 50m Indoor 150m	100m 300m	150m 450m	200m 600m	250m 750m
No. of beams	3 beams				
Detection mode	3 beams blocked simultaneous				
Optical source	Infrared digital pulse beam				
Response speed	50 - 700msec adjustable				
Alarm output	Relay contact output: NO, NC contact rating: AC/DC30V 0.5Amax				
Power supply	DC12-24V AC11-18V P \leq 1.6W				
Power consumption	70mAmax	80mAmax	90mAmax	90mAmax	100mAmax
Operation temperature & humidity	-25 $^\circ$ C-55 $^\circ$ C 5%-95%RH(relative humidity)				
Dimensions	Refer to its diagram				
Tamper output	Contact output: NC contact rating DC24V 0.5Amax				
Optical axis adjustment(H)	$\pm 180^\circ$ ($\pm 90^\circ$)				
Optical axis adjustment(V)	20° ($\pm 10^\circ$)				
Viewfinder	Detachable				
Protection against dew, frost	Calcification housing (optional)				
Material	PC resin				
Net weight	1180g(receiver + transmitter)				
Gross	1966g				

IX. Recommended installation guide & physical appearance and dimension

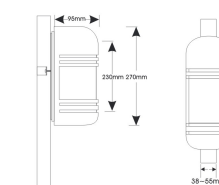
Recommended installation



Installation bracket



Physical appearance & dimension



The product has got the 3C and CE approval already and is now applying for the UL approval.