

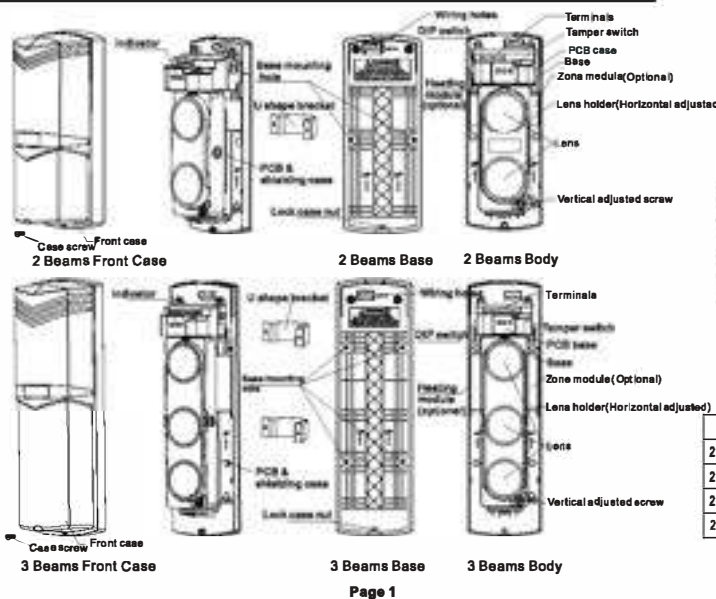
Frequency Adjusted Infrared Detector Manual
 ABT Dual-beam Series: Outdoor 30/60/100/150 meters
 ABE Triple-beam Series: Outdoor 50/100/150/ 200/250

Thanks for choosing this photoelectric infrared detector, please read this Instruction manual carefully before installation, and keep it for future reference.

Warning	Do not use the product for purposes other than the detection of moving objects such as people and vehicles.
	Do not touch the unit base or power terminals with a wet hand (do not touch when the product is wet with rain etc.) It may cause electric shock. Never attempt to disassemble or repair the product, it may cause fire or damage to the device. Do not exceed the voltage or current rating specified for any of the terminals during installation, doing so may cause fire or damage to the device.
Caution	Do not pour water over the product. The water may enter, which may cause damage to the devices.
	Clean and check the product periodically for safe use. The product are designed to detect intruder, we will not accept responsibility for any damages or other consequences resulting from an intrusion.

Remarks: the details as below only apply to 2 beams, 3 beams.

Part Name

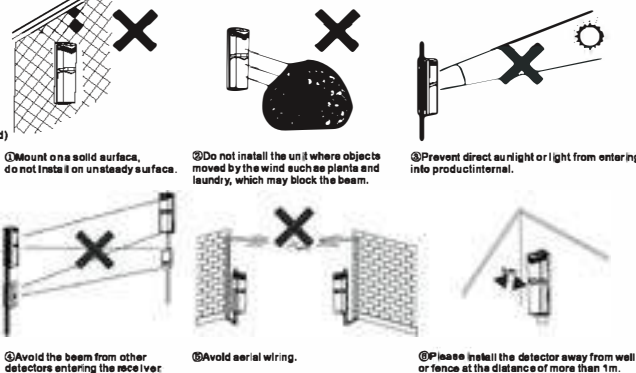


Features

1. Beam interruption time adjusted.
2. Form C relay providing more applications.
3. Tamper switch NC, open when remove case.
4. 4 channel frequency adjusted, anti-interference, suitable for long distance and stack use.
5. Digital tube display received signal strength, easy to debug.
6. Wide voltage and energy saving design.
7. Digital communication function.
8. Alignment angle: $\pm 90^\circ$ horizontally, $\pm 10^\circ$ vertically.
9. Waterproof grade IP65.
10. Digital filtering, environment adaptive function, minimum false alarm.
11. The lowest beam interference, can be used in all kinds of complicated environment.

Installation

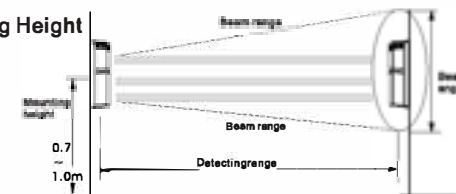
1 Please avoid these situations below to assure product performance:



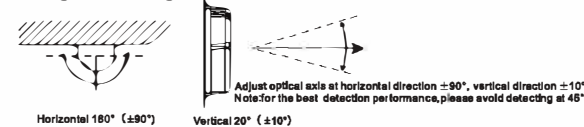
General Installation
 Detecting Distance

Model	Detecting Distance	Beam Angle
2 beams 30 meters	30m	1.2m
2 beams 60 meters	60m	1.8m
2 beams 100 meters	100m	2.0m
2 beams 150 meters	150m	2.4m
3 beams 50 meters	50m	1.8m
3 beams 100 meters	100m	2.0m
3 beams 150 meters	150m	2.5m
3 beams 200 meters	200m	3.4m

Mounting Height

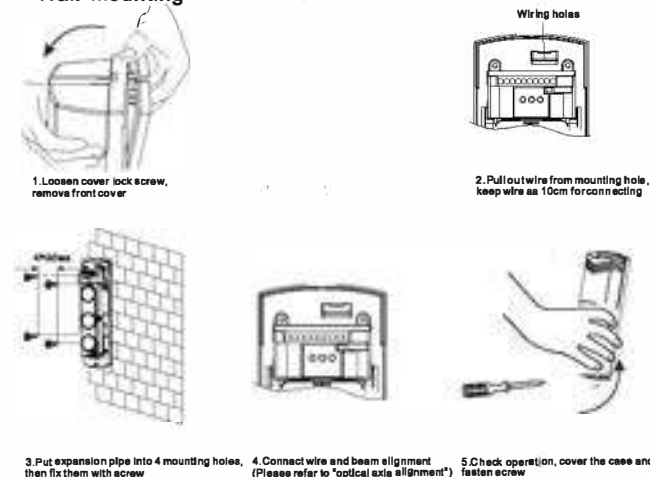


Alignment angle



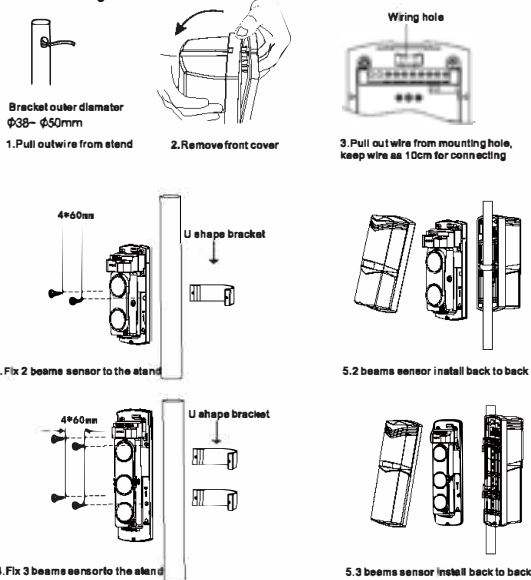
Intallation Way

Wall mounting



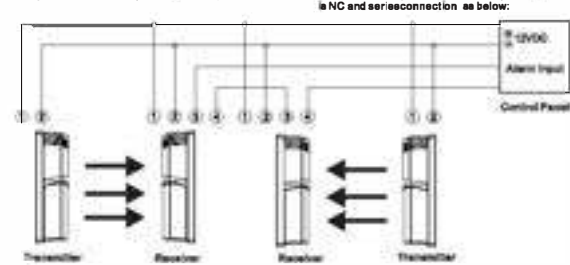
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Pole Mounting



1 set wiring:

The power of transmitter and receiver are paralleled, using DC 12V by control panel, alarm output is NC as below:



2 sets wiring:

The power of the transmitter and receiver are paralleled connection, using DC 12V by control panel, alarm output is NC and series connection as below:

2 sets of series installation: The power of the transmitter and receiver are paralleled connection, using DC 12V by control panel, alarm output is NC and series connection.

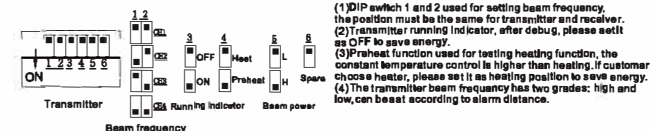
The wire length between power supply and detector should not exceed as below:

Diameter	Length	DC 12V	DC 24V
0.5mm ² (Diameter 0.6)		100m	500m
0.75mm ² (Diameter 1.0)		150m	750m
1.0mm ² (Diameter 1.2)		200m	1000m
1.5mm ² (Diameter 1.4)		250m	1250m

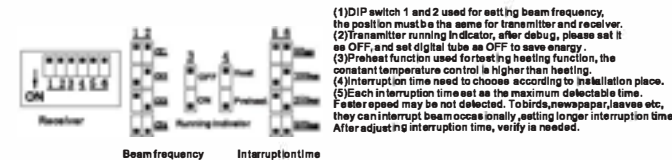
Caution

1. Power wire can not exceed the listed length.
2. When connect more detector, the needed wire length is obtained by listed length divided by number of units used.
3. Do not connect terminals to exceed voltage specified, doing so might damage device or cause fire.

DIP Switch



- (1) DIP switch 1 and 2 used for setting beam frequency, the position must be the same for transmitter and receiver.
- (2) Transmitter running indicator, after debug, please set it as OFF to save energy.
- (3) Preheat function used for testing heating function, the constant temperature control is higher than heating, if customer choose heater, please set it as heating position to save energy.
- (4) The transmitter beam frequency has two grades: high and low, can be set according to alarm distance.

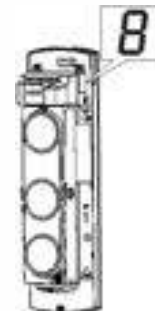


- (1) DIP switch 1 and 2 used for setting beam frequency, the position must be the same for transmitter and receiver.
- (2) Transmitter running indicator, after debug, please set it as OFF, and set digital tube as OFF to save energy.
- (3) Preheat function used for testing heating function, the constant temperature control is higher than heating.
- (4) Interruption time need to choose according to installation place.
- (5) Each interruption time set as the maximum detectable time. Faster speed may be not detected. To birds, newspaper, leaves etc, they can interrupt beam occasionally, setting longer interruption time. After adjusting interruption time, verify is needed.

Alignment Indicator

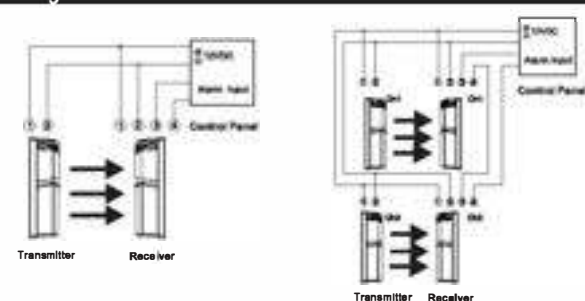
Digital tube indicator

- (1) Adjust beam frequency switch, make transmitter and receiver with the same frequency. If transmitter frequency is CH1, then receiver frequency is also CH1.
- (2) Adjust vertical screw and horizontal lens holder, at this time digital tube display is from 0 to 9.0 means without signal, and in the status of alarm, relay alarm output, alarm indicator is on. When optical axis align well, digital tube display should be 8.
- (3) After the above step, must do walk testing, and confirm alarm status normal. If can't align, please do step 1.



Signal strength	0-4 Realign 5-6 General 7-8 Good 9 Excellent
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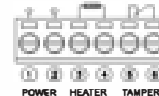
Wiring



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Wire Connection

Transmitter terminals:



1. Power Input DC 10V-24V
2. Optional heater, standard without heater

Receiver terminals:

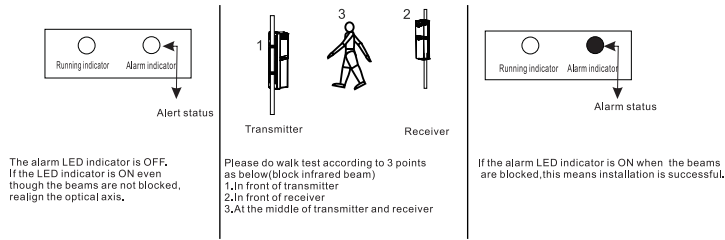


1. Power Input DC 10V-24V
2. Optional heater, standard without heater
3. Relay contact 1C 30V DC 0.5A max

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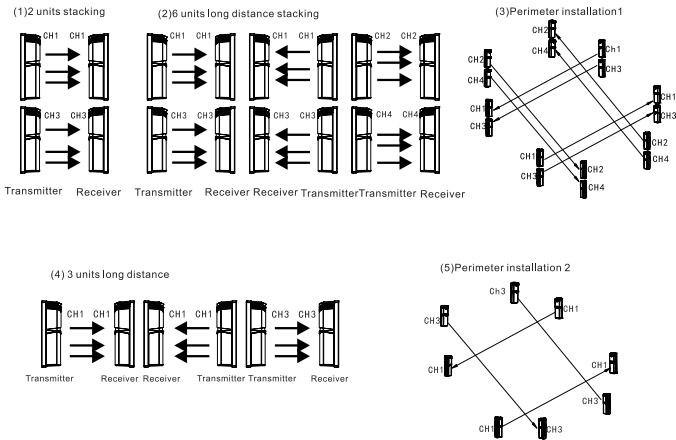
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Walk Test



Beam frequency

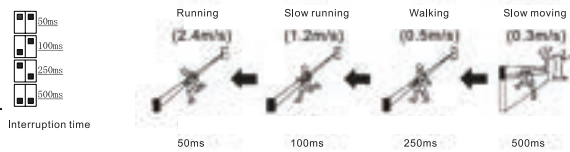
The selectable frequency can avoid anti interference for long distance or stacking use. Make sure the transmitter and receiver with the same frequency. Although there are 4 channel frequency can be chosen, please set frequency two channels apart for stacking applications. The first unit is set on channel 1 while the next is on channel 3, channel 2 and 4 are the same.



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Interruption Time

Beam interruption time adjusted is on receiver, the function can adjust detector sensitivity adapt to different environment, slow setting means reduce sensitivity.



Each interruption time set as the maximum detectable time. Faster speed may be not detected. To birds, newspaper, leaves etc, they can interrupt beam occasionally, setting longer interruption time. After adjusting interruption time, verify is needed.

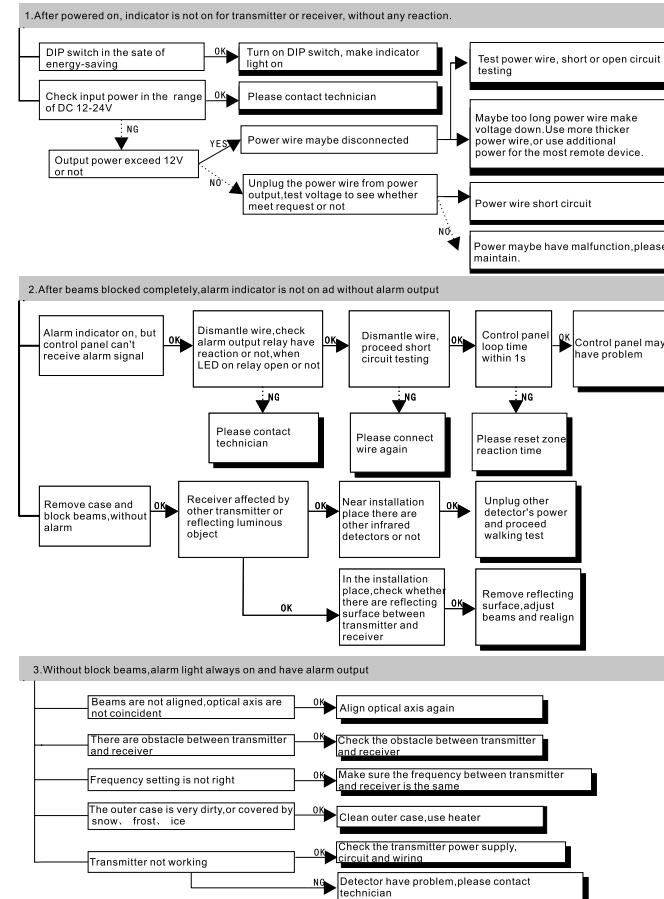
Specifications

2 Beams Sensor		30meters	60meters	100meters	150meters
Detecting distance	Indoor(m)	60	120	200	300
	Outdoor(m)	30	60	100	150
2 Beams Detecting Way					
2 infrared beams are interrupted at the same time					
3 Beams Sensor	Indoor(m)	50meters	100meters	150meters	200meters
	Outdoor(m)	100	200	300	400
3 Beams Detecting Way					
3 infrared beams are interrupted at the same time					
Interruption time	50ms, 100ms, 250ms, 500ms(optional)				
Beam frequency	4 channel optional				
Working voltage	10V-24V DC/AC				
Working current	90mA max				
Alarm period	2s, 50ms optional				
Alarm output	Relay contact output 1C, contact capacity DC 30V 0.5A max				
Tamper switch	NC, open when case removed				
IP grade	IP65				
Working temperature	-25°C~55°C				
Environment humidity	95% max				
Alignment angle	Horizontal 180° (±90°), Vertical 90° (±10°)				
Installation place	Indoor/outdoor, wall/pole				
Weight	2 beams sensor 800g, 3 beams sensor 1250g				
Accessories	U shape bracket	2pcs/4pcs, 70*37.5*21.5mm, stainless material with thickness 1.5mm			
	Mounting screw	4pcs/8pcs, PM4*30mm			
Heater (optional)	Voltage	12V-24V DC			
	Current	350mA max			
	Temperature	+60°C			
Heater accessories	2pcs, PA2, 5*10mm				

Remarks: when environment temperature is lower than -20°C, please choose heater, the wire on the heater is nonpolar.

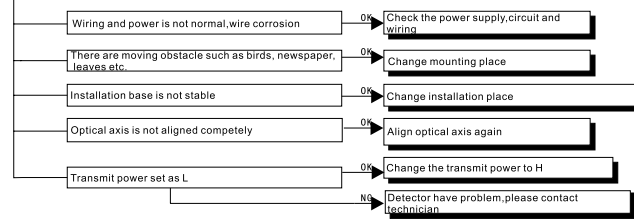
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Malfunction Process

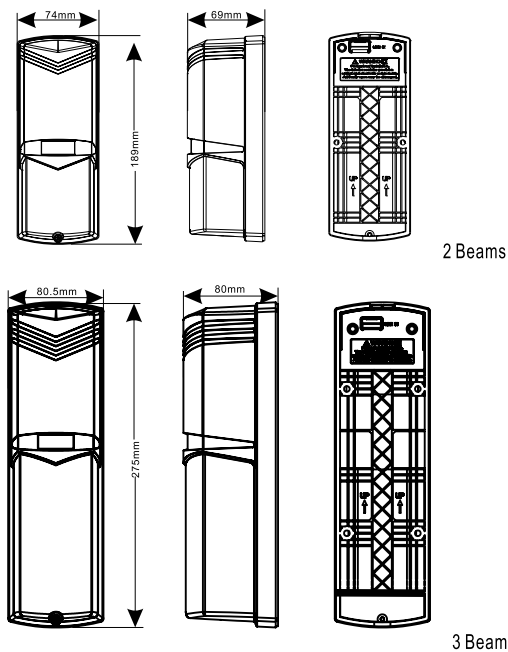


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False Alarm



Dimensions



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