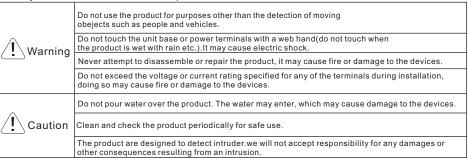
Frequency Adjusted Infrared Detector Manual

- 2 Beams Series: ABT-30 ABT-60 ABT-100 ABT-150
- 3 Beams Series: ABE-50 ABE-100 ABE-150 ABE-200

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



Base mounting

U shape bracke

Lock case nu

J shape bracket

PCB & shielding case

Lock case nut

PCB & shielding case Wiring holes

2 Beams Body

3 Beams Body

DIP switch

module

Heating

(optional

module

Terminals

Tamper switch PCB case -Base

Zone module(Optional)

Vertical adjusted screw

Tamper switch

Zone module(Optional)

PCB base Base

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

Part Name

Case screw Front case

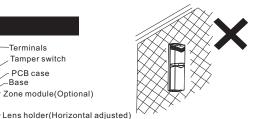
2 Beams Front Case

-eatures

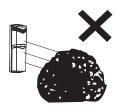
- 1.Beam interruption time adjusted.
- 2. Form C relay providing more applications.
- 3. Tamper switch NC, open when remove case.
- 4.4 channel frequency adjusted, anti-interference, suitbable for long distance and stack use.
- 5. Digital tube display received signal strength, easy to debug.
- 6. Wide voltage and energy saving design.
- 7. Digital communication function.
- 8. Alignment angle: ±90° horizontally, ±10° 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

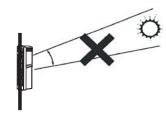
1. Please avoid these situations below to assure product performance:



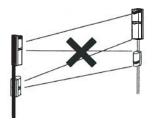
(1) Mount on a solid surface, do not install on unsteady surface.



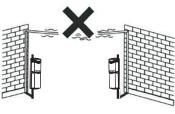
@Do not install the unit where objects moved by the wind such as plants and laundry, which may block the beam.



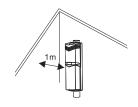
③Prevent direct sunlight or light from entering into product internal.



(4) Avoid the beam from other detectors entering the receiver.



(5) Avoid aerial wiring.



@Please install the detector away from wall or fence at the distance of more than 1m.

General Installation **Detecting Distance**

Lens holder(Horizontal adjusted)					
Lens	Model	Detecting Distance	Beam Angle		
	ABT-30	30m	1.2m		
− Vertical adjusted screw	ABT-60	60m	1.6m		
	ABT-100	100m	2.0m		
	ABT-150	150m	2.4m		

Model	Detecting Distance	Beam Angle	
ABE-50	50m	1.6m	
ABE-100	100m	2.0m	
ABE-150	150m	2.6m	
ABE-200	200m	3.4m	

2 Beams Angle

3 Beams Angle

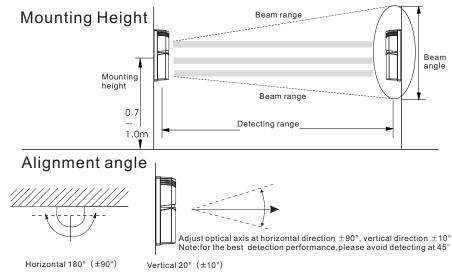
3 Beams Front Case

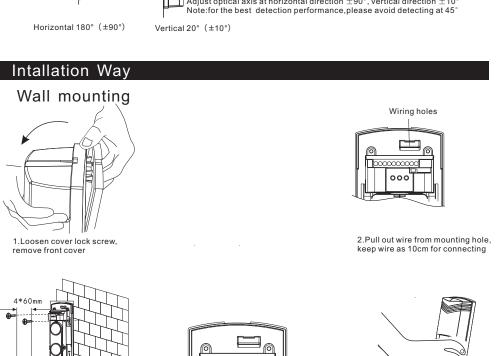
Case screw Front case

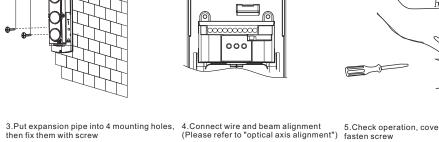
Page 1

3 Beams Base

2 Beams Base



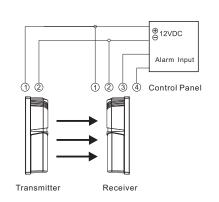




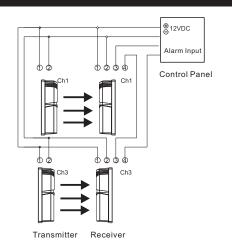
5. Check operation, cover the case and

Pole Mounting Wiring hole 000000000 Bracket outer diameter Φ38~ Φ50mm 1.Pull out wire from stand 3.Pull out wire from mounting hole, keep wire as 10cm for connecting 2.Remove front cover 4*60mm U shape bracket 4. Fix 2 beams sensor to the stand 5.2 beams sensor install back to back U shape bracket

Wiring



4. Fix 3 beams sensor to the stand



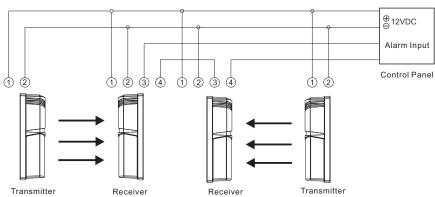
5.3 beams sensor install back to back

Page 4 Page 3

1 set wiring:

2 sets wiring:

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



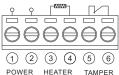
■ The wire length between power supply and detector should not exceed as below:

Voltage Diameter Length	DC12V	DC 24V
0.5mm² (Diameter 0.8)	100m	500m
0.75mm² (Diameter 1.0)	150m	750m
1.0mm² (Diameter 1.2)	200m	1000m
1.5mm² (Diameter 1.4)	250m	1250m

- 1. Power wire can not exceed the listed length. 2. When connect more detectors, 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.

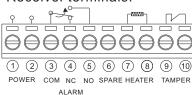
Wire Connection

Transmitter terminals:



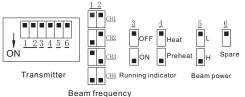
- 1.Power input DC 10V-24V
- 2. Optional heater, standard without heater

Receiver terminals:

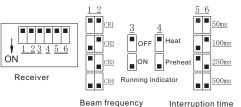


- 1.Power input DC 10V-24V
- 2. Optional heater, standard without heater
- 3. Relay contact 1C 30V DC 0.5A max

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.

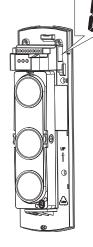
Alignement Indicator

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 9.

(3) After the above step, must do walk testing, and confirm alarm status normal. If can't align, please do step 1.



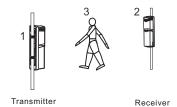
Signal strength

0~4 Realign 5~6 General 7~8 Good 9 Excellent

Walk Test



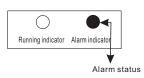
The alarm LED indicator is OFF. If the LED indicator is ON even though the beams are not blocked, realign the optical axis.



Please do walk test according to 3 points as below(block infrared beam)

1.In front of transmitter

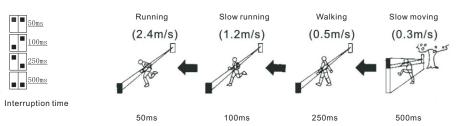
- 2.In front of receiver
- 3.At the middle of transmitter and receiver



If the alarm LED indicator is ON when the beams are blocked, this means installation is successful.

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.

Beam frequency

(4) 3 units long distance

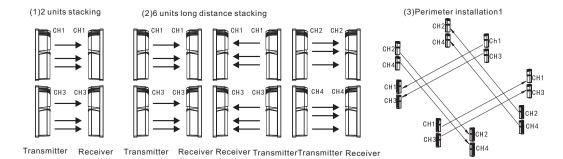
The selectable frequency can avoid anti interference for long distance or stakcing use.

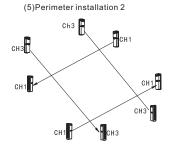
Make sure the transimitter and receiver with the same frequency.

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.





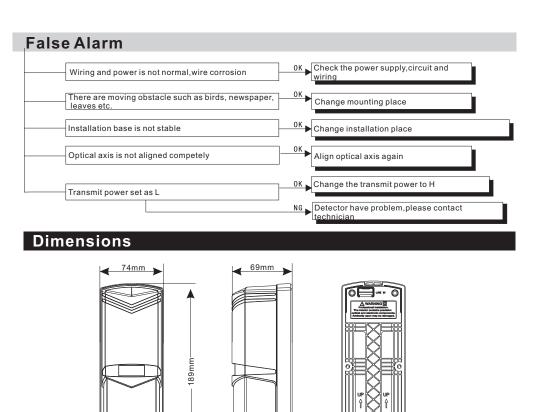
Specifications

2 Beams Sensor		ABT-30	ABT-60	ABT-100	ABT-150	
Detecting distance	Indoor(m)	60	120	200	300	
	Outdoor(m)	30	60	100	150	
2 Beams D	Detecting Way	2 infra	2 infrared beams are interrupted at the same time			
3 Beams Sensor		ABE-50	ABE-100	ABE-150	ABE-200	
Detecting distance	Indoor(m)	100	200	300	400	
	Outdoor(m)	50	100	150	200	
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				
Workir	ng 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℃-55℃				
Environment humidity		95% max				
Alignment angle		Horizontal 180° (±90°), Vertical 90° (±10°)				
Installation place		Indoor/outdoor,wall/pole				
We	eight	2 beams senor 900g,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℃				
	Heater accessories	2pcs,PA2.5*10mm				

 $Remarks: when environment temperature is lower than -20 {\,{}^{\circ}\!\!C} \,, \, please \, choose \, heater, the \, wire \, on \, the \, heater \, is \, nonpolar.$

Malfunction Process 1. After powered on, indicator is not on for transmitter or receiver, without any reaction. 0K Turn on DIP switch, make indicator DIP switch in the sate of Test power wire, short or open circuit liaht on energy-saving testing Check input power in the range 0K Please contact technician of DC 12-24V Maybe too long power wire make NG voltage down. Use more thicker YES Power wire maybe disconnected power wire, or use additional power for the most remote device. Output power exceed 12V or not Unplug the power wire from power output, test voltage to see whether Power wire short circuit meet request or not NO: Power maybe have malfunction, please maintain. 2. After beams blocked completely, alarm indicator is not on ad without alarm output Alarm indicator on, but Dismantle wire, check Dismantle wire, Control panel OK Control panel may OK alarm output relay have OK control panel can't loop time proceed short reaction or not when have problem receive alarm signal circuit testing within 1s LED on relay open or not NG NG NG Please contact Please connect Please reset zone technician wire again reaction time Receiver affected by Near installation Unplug other Remove case and 0K other transmitter or place there are detector's power block beams, without reflecting luminous and proceed other infrared alarm object detectors or not walking test In the installation place, check whether Remove reflecting there are reflecting surface.adjust 0K surface between beams and realign transmitter and receiver 3. Without block beams, alarm light always on and have alarm output Beams are not aligned, optical axis are OK Align optical axis again not coincident OK Check the obstacle between transmitter There are obstacle between transmitter and receiver Make sure the frequency between transmitter Frequency setting is not right The outer case is very dirty, or covered by OK Clean outer case, use heater snow, frost, ice Check the transmitter power supply. ok circuit and wiring Transmitter not working NG Detector have problem, please contact technician

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2 Beams

3 Beams

