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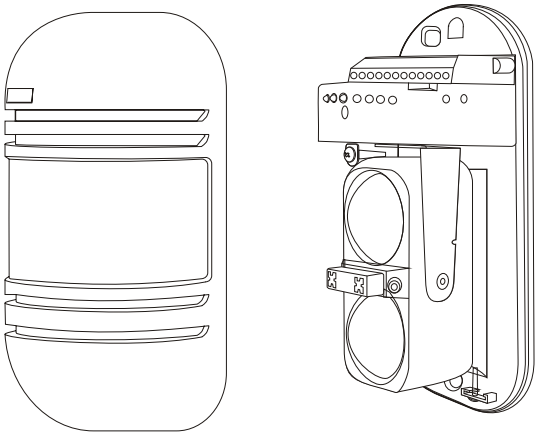
2 BEAMS ACTIVE PHOTOELECTRIC DETECTOR WITH 8 DIGITAL FREQUENCY CONVERSION

Model
☐ 3401-GRD ABT 30
☐ 3402-GRD ABT 60
☐ 3404-GRD ABT 100

Instruction Manual

Installation Guide



- Active Infrared Detector, composed by a Transmitter(TX) and a Receiver(RX).
- The alarm is tripped by the simultaneous interruption of all the beams of the detector.
- Fog/Rain recognition with automatic adaptation of the transmission power to the enviromental conditions.
- Disqualification Feature in case of heavy fog (is a signal the detector sends to the connector pins (DISQ.) when the Transmitter is no more in condition to communicate with the Receiver, due to weather conditions like fog or heavy rain/snow)
- Alignement with viewfinder and LED indication
- Signal strength indication
- Possibility to set 8 different digital frequencies to avoid interferences
- Status and Alarm Buzzer in setting mode
- Adjustable Response Time from 50 to 240 ms.
- Tamper

Indice dei contenuti

1. Technical parameters

Model		ABT-30	ABT-60	ABT-100
Alert distance	Outdoor	30m	60m	100m
	Indoor	60m	180m	300m
No. of beams		2 beams		
Detection mode		2 beams blocked simultaneously		
Optical source		Infrared digital pulse beam		
Response speed		50-240ms		
Alarm output		Relay contact output: NO. NC contact rating: DC30V, 150mAMax		
Power supply		DC13.8-24V 15W		
Operation temperature & humidity		-25°C/+55°C 5-95%RH (relative humidity)		
Dimensions		See drawings		
Tamper output		Contact output: NC contact rating: DC30V, 150mAMax		
Optical axis adjustment(H)		180° (± 90°)		
Optical axis adjustment(V)		20° (± 10°)		
Protection against dew,frost		Calefaction housing (optional)		
Material		PC resin		
Net Weight		658g(receiver +transmitter)		
Gross weight		1150g		

Table:1

2. Terminology

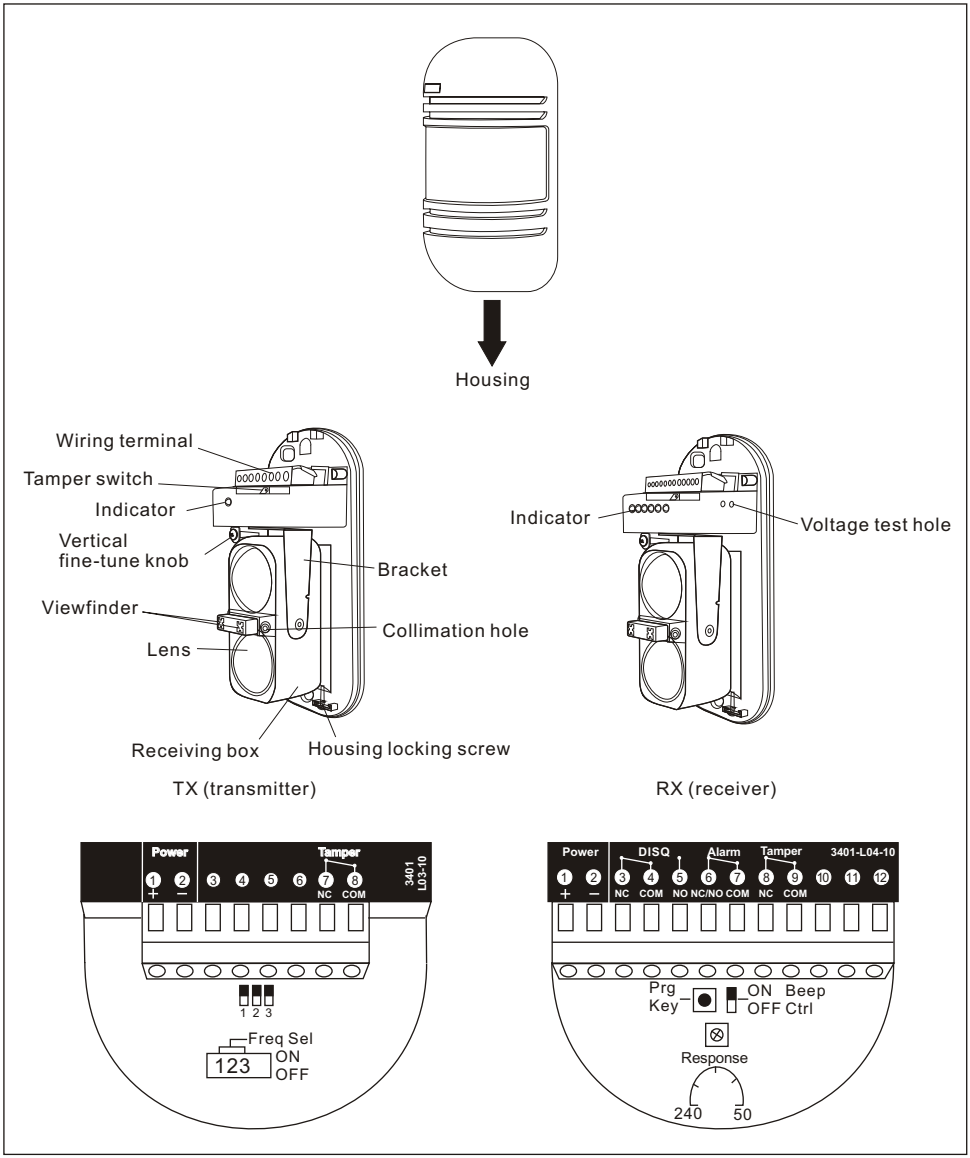


Figure:1

3. Preacautions for installation

3.1 Notes for installation

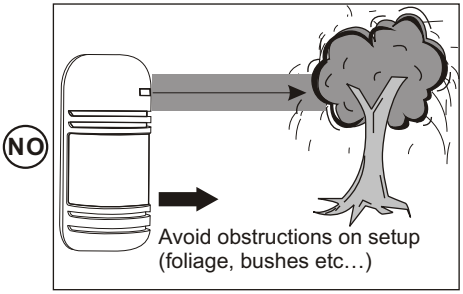


Figure:2

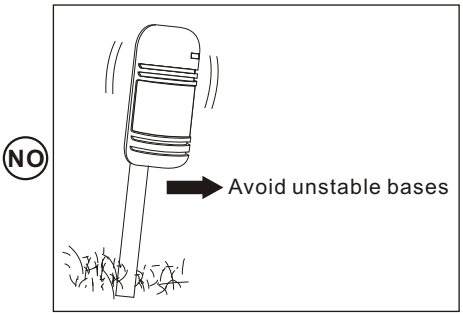


Figure:3

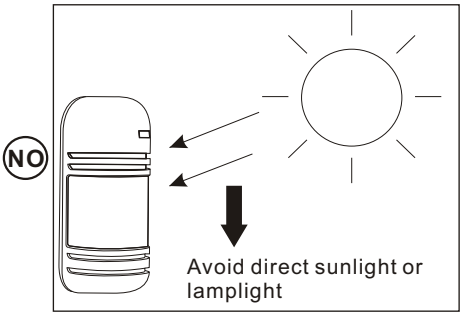


Figure:4

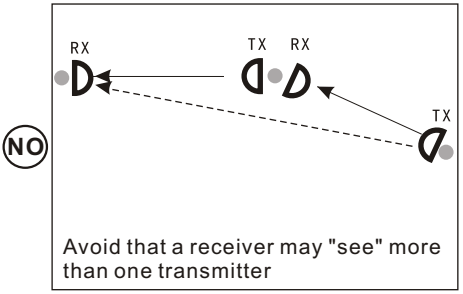


Figure:5

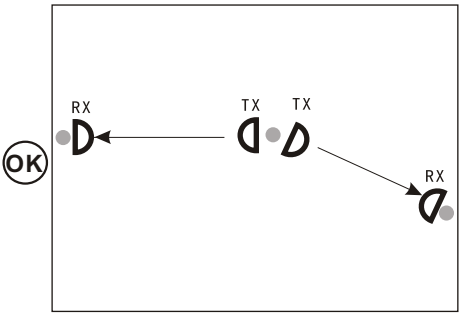


Figure:6

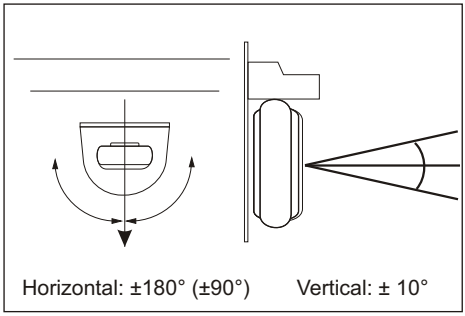


Figure:7

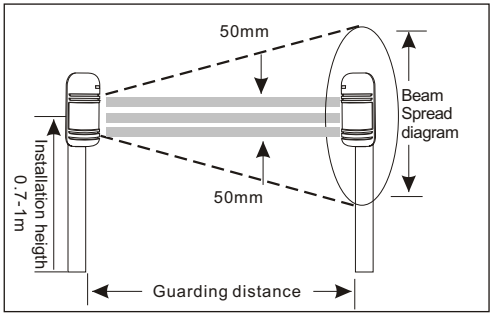


Figure:8

Style	Guarding distance	Beam spread diameter
ABT-30	30m	0.7m
ABT-60	60m	1.5m
ABT-100	100m	2.1m

Table:2

3.2. Installation on Wall

3.2.1 Place the template onto the location where you want to mount the equipment, and drill the holes in the corresponding marks

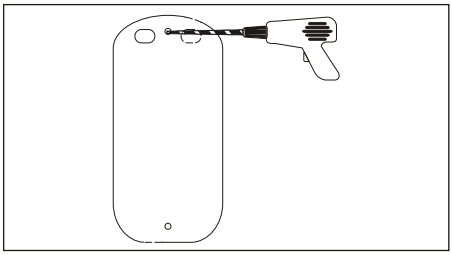


Figure:9

3.2.2 Remove the cover

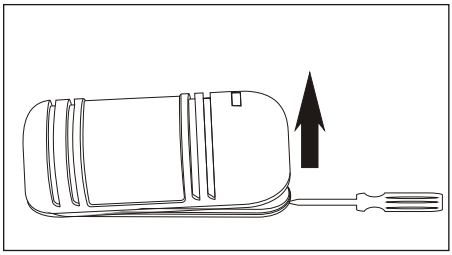


Figure:10

3.2.3 Pass the cable through the wiring hole

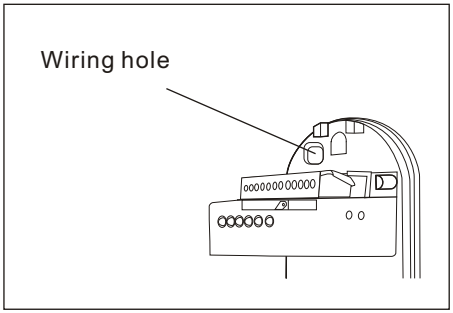


Figure:11

3.2.4 Fix the main body onto the wall

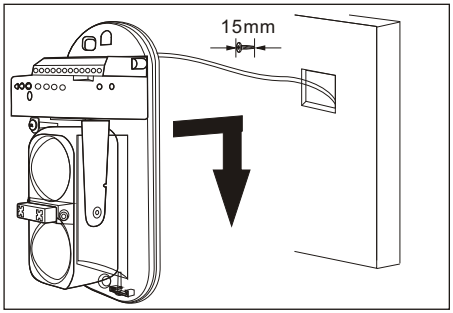


Figure:12

3.3 Installation on pole/brackets

3.3.1 Drill a hole on the pole and pass the cable in it.

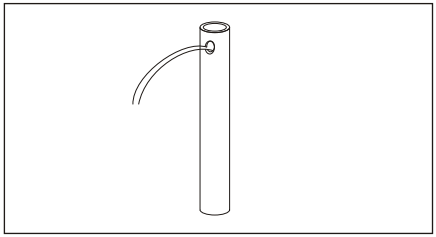


Figure:13

3.3.2 Remove the cover

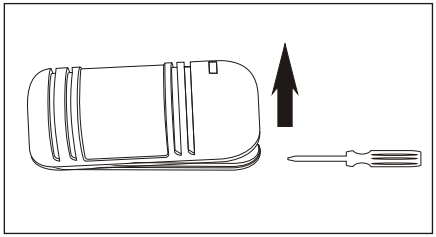


Figure:14

3.3.3 Fix the base-plate to the bracket.

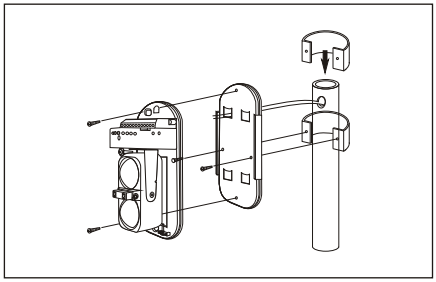


Figure:15

3.3.4 Back-to-back installation diagram

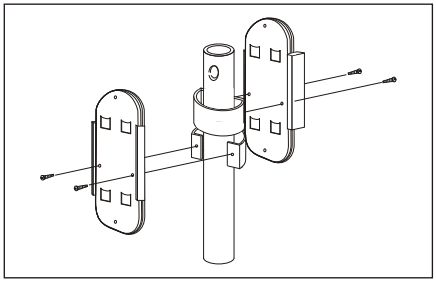


Figure:16

4. Settings and features

4.1 Frequency setting on TX (transmitter)

Setting the transmitting frequency of the detector: Selecting the DIP Switches whitch located nearby the clamps according to the different combinations shown at table 3.

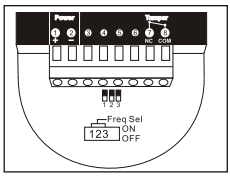


Figure:17

DIP \ Frequencies	1	2	3	4	5	6	7	0
1	ON	OFF	ON	OFF	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF	OFF	ON	ON	OFF
3	OFF	OFF	OFF	ON	ON	ON	ON	OFF

Table:3

4.2 Settings and features on RX (receiver)

The Receiver adopts an electronic memory chip to store data. The frequency setting is not by DIP Switches.

4.2.1 Setting of receiving frequency and NO/NC status.

Enter in PROGRAMMING Mode by pressing the PRG button 3 times within 3 seconds, wait for a double confirmation beep.
In this condition (programming), the buzzer and the alarm LED will periodically emit signals.
The LEDs on the front of the Receiver numbered from 1 to 5; LED 1 ~ 3 indicate the different frequency (as shown at tab.4), LED 4 shows the Alarm Exit, OFF=NC; ON=NO
Press the PRG button to shift from one frequency to the next, once reached the selected one, wait for 10 seconds for the receiver automatically store the selected setting.
The Receiver will return to the operation mode after one long confirmation beep.

Output NC					
Bands	Signal LED				
	4	3	2	1	
0	OFF	0	0	0	
1	OFF	0	0	1	
2	OFF	0	1	0	
3	OFF	0	1	1	
4	OFF	1	0	0	
5	OFF	1	0	1	
6	OFF	1	1	0	Note: 1=ON 0=OFF
7	OFF	1	1	1	

Output NC					
Bands	Signal LED				
	4	3	2	1	
0	ON	0	0	0	
1	ON	0	0	1	
2	ON	0	1	0	
3	ON	0	1	1	
4	ON	1	0	0	
5	ON	1	0	1	
6	ON	1	1	0	Note: 1=ON 0=OFF
7	ON	1	1	1	

Table:4

4.3 Signal Transmitting Strength

The receiver has a Signal Strength evaluation panel that indicates the signal strength. The Strength is indicated by 5 LED located on the front of the receiver (figure 18) according to the following table 5.

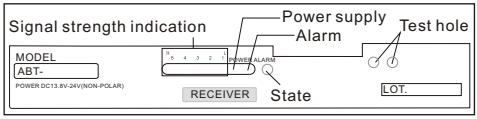


Figure:18

Signal strength indication					Grade
LED5	LED4	LED3	LED2	LED1	
ON	ON	ON	ON	ON	G1 0
ON	ON	ON	ON	twinkle	G 9
OFF	ON	ON	ON	ON	G 8
OFF	ON	ON	ON	twinkle	G 7
OFF	OFF	ON	ON	ON	G 6
OFF	OFF	ON	ON	twinkle	G 5
OFF	OFF	OFF	ON	ON	G 4
OFF	OFF	OFF	ON	twinkle	G 3
OFF	OFF	OFF	OFF	ON	G 2
OFF	OFF	OFF	OFF	twinkle	G 1
OFF	OFF	OFF	OFF	OFF	G 0

Table:5

Indicatore potenza segnale (11 livelli); si suggerisce una potenza di Grado 7 o superiore.

It is recommended positioning the barriers in order to obtain a Signal Strength Grade of 7 or higher.

4.4 Detection LED

Some detection testing is recommended after you have finished the settings: LED will indicate according to the following table 6.

	LED State	LED Alarm	State
Receiver RX	ON	OFF	Normal
	OFF	ON	Alarm, Ray Blocked
	ON	ON	TX and RX are not on the same frequency
	OFF	OFF	Disqualified

Table:6

5. Beam alignment

5.1.Observe the collimation effect at a distance of 5 cm from the viewfinder

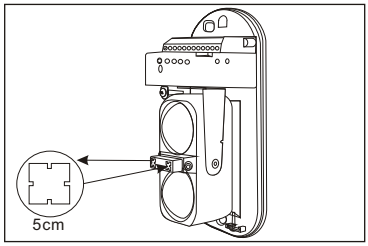


Figure:19

5.2.Adjust the vertical adjustment screw and the horizontal angle adjusting wheel in order that the image of opposite detector falls into the central part of the viewing hole. Adjust it repeatedly untill the GOOD sign lights up.

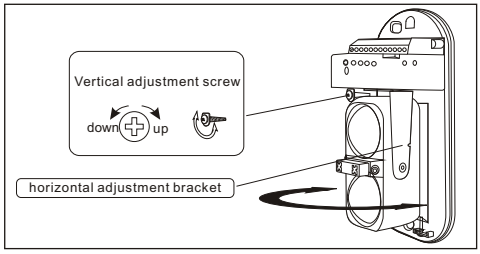


Figure:20

5.2.1 Insert the test pen into the test hole (please note the +/- polarity)

5.2.2 First adjust the horizontal angle until the test hole voltage output maximize. Then adjust the vertical angle the same way till the voltage reaches the value above that of below diagram.

5.2.3 If it can not reach 1.1V or a higher voltage, the transmitter and receiver will have to be regulated again.

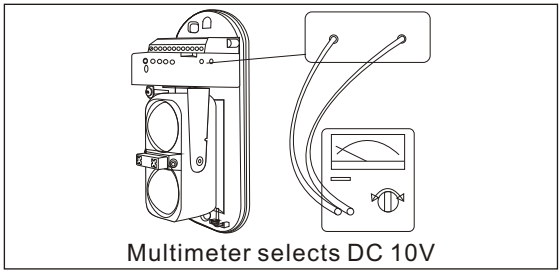


Figure:21

6. Anti-Fog feature

Detectors are equipped with a anti-fog function, it will automatically increase the transmission power as soon as the visibility became worse.
The Disqualification Alert will be activated automatically under the condition that the weather situation do not allow the dectection funtioning well.

Example with NC programmed Alarm Output

6.1 Normal condition

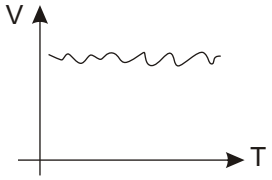


Figure:22

Status Indicator: ON
Alarm (red LED): OFF
Alarm Exit: NC
Disqualification: NC

6.2 Alarm condition (beams are interrupted)

Figure:23

Status Indicator: ON
Alarm (red LED): ON
Alarm Exit: NO
Disqualification: NC

6.3 Disqualification condition

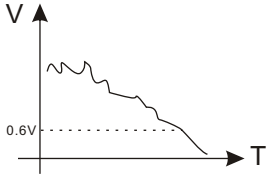
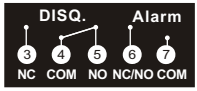


Figure:24

Status Indicator: OFF
Alarm (red LED): OFF
Alarm Exit: NC
Disqualification: NO



The Disqualification Alert will be activated automatically if the voltage reached 6 Volts.

6.4 Anti Fog Alarm condition

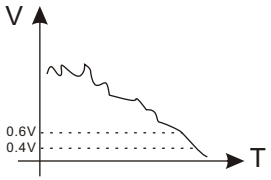


Figure:25

Status Indicator: OFF
Alarm (red LED): ON
Alarm Exit: NO
Disqualification: NO

The detector will send a signal to the Alarm Port if the voltage reaches 0.4 Volts.

7. Beam response time adjustment

Beams detect the intruder based on the time the person take to cross them. Setting the response time at a High Speed, may increase the possibilities of a false alarm due to natural causes (think at the crossing of a bird, of an animal or at a fruit falling).

It is recommended to consider the different possibilities of intrusion for a more accurate setting.

In the following diagram are indicated the most common speeds that may help in setting the response time of the detectors. Normally the time should be set lower than the time required to the intruder to cross the controlled area.

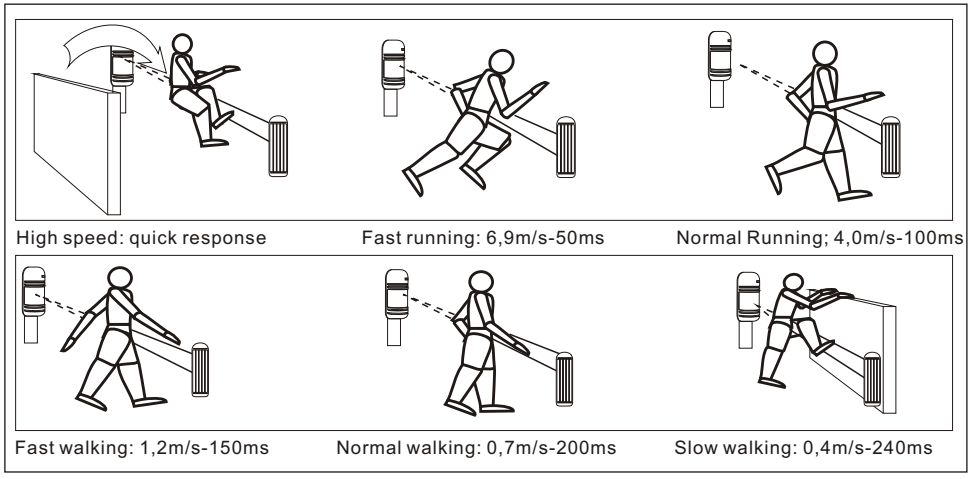


Figure:26

8. Common Errors

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 13V 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.

Table:7

9. Dimensions

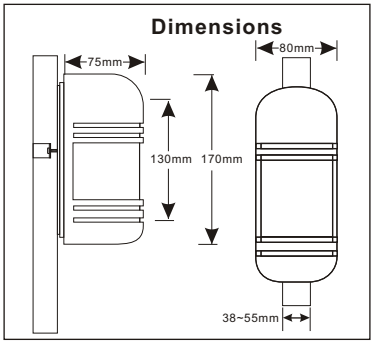


Figure:27

10. Warranty

The Supplier guarantees this product against recognized manufacturing defects for 12 months from delivery. During the guaranteed period, products can be judged defected, substituted or repaired, at the sole discretion of the supplier. The guarantee does not cover products having been manipulated, repaired by third persons or used not accordingly to the foreseen usage. Terms of the guarantee does not incur the supplier into responsibilities for eventual damages, for any reason occurred to the Client. Product delivery to the Supplier according to this guarantee, as packing costs and any other accessorial costs as well, are in the account of the Client.

In compliance with the regulations
EN55022/A1:2000
EN61000-6-1:2001
EN 61000-4-2: 2001
EN 61000-4-3: 2002
EN 61000-4-8: 2001
EN 61000-4-11: 2001
WEEE (Waste Electrical and Electronic Equipment)

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