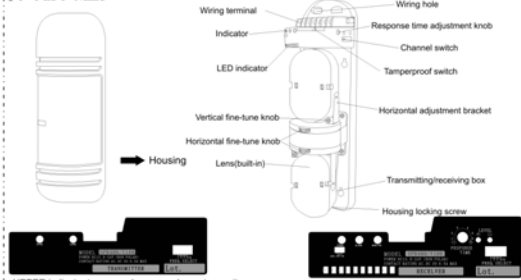


4 BEAMS ACTIVE PHOTOELECTRIC DETECTOR WITH DIGITAL FREQUENCY CONVERSION INSTALLATION GUIDE

Model:

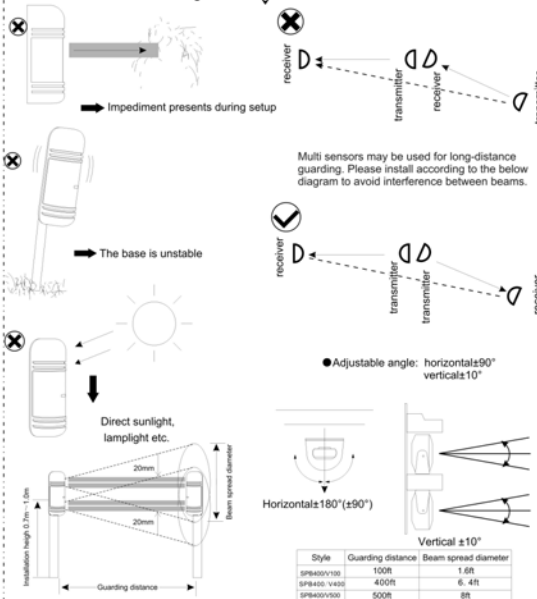
SPB400/V100(Outdoor 100ft, Indoor 300ft)
SPB400/V400(Outdoor 400ft, Indoor 1200ft)
SPB400/V500(Outdoor 500ft, Indoor 1500ft)

I. Part Name



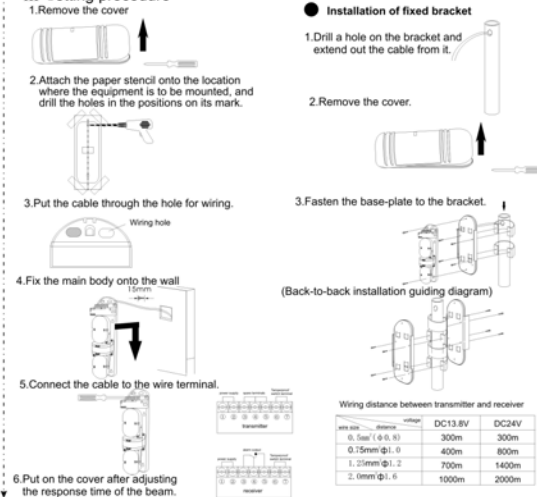
- UPPER indicator turns on when upper beam transmits.
- LOWER indicator turns on when lower beam transmits.
- POWER: The indicator turns on when power is connected.
- ALARM: The indicator turns on when alarm presents.
- MONITOR: (adjustment indicator) The green indicator turns on when the beam aligns with the receiver. If fails to align, the red indicator will on.

II. Precautions for setting



Style	Guarding distance	Beam spread diameter
SPB400/V100	100R	1.6R
SPB400/V400	400R	6.4R
SPB400/V500	500R	8R

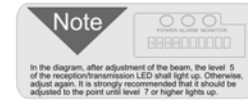
III Setting procedure



Wiring distance between transmitter and receiver	DC13.8V	DC24V
0.5mm ϕ 1.0	300m	300m
0.75mm ϕ 1.2	400m	800m
1.25mm ϕ 1.2	700m	1400m
2.0mm ϕ 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, and then 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.
 - The LED indicator shall light up five piece or more.
 - Adjust the vertical adjustment screw and the horizontal angle adjusting wheel, the signal strength indicator will light up step by step, adjust until level 7 or higher indicator lights up, adjust it repeatedly before application.
 - Cover the housing after adjustment.



Note
In the diagram, after adjustment of the beam, the level 5 of the receiver/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.

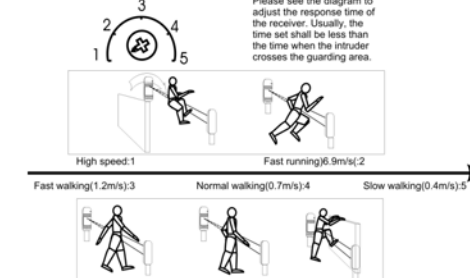
Voltage test method

- Cover the receiver with a light filter. Insert the test pen into the test hole (please note the + - polarity)
- First adjust the horizontal angle until the test hole voltage output maximum. Then adjust the vertical angle by the same way till the voltage reaches the value above that of below diagram.
- If it can't reach 1.1V or higher voltage, the transmitter and receiver shall be regulated again. The multimeter should be with DC 10V.

Reference value for adjustment voltage

MODEL	VALUE
SPB400/V100	DC1.4~1.5V
SPB400/V500	DC1.2~1.3V

V Beam response time adjustment



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
Receiver	Guarding	GOOD LEVEL indicators light up
	In alarm	The red ALARM indicator light up

VII. Trouble checking

Fault	Cause	Solution
This LED of the transmitter doesn't light up.	Power failure: open circuit, short-circuit, etc.	Check the power wiring
This LED of the receiver doesn't light up after 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 power is polluted 4. The power wiring 5. The supply voltage does not reach 10V or higher 6. The protection diode appears to block the beams due to the effect of wind and rain 7. The installation base is unstable 8. The beam coincidence accuracy is inadequate 9. Beams blocked by other moving objects 7. Response time too short 8. Level 1 LED does not light up before the cover is put on.	1. Re-adjust the beam 2. Remove the obstacle 3. Check the power 4. Remove the diode or change the location 5. Set it with a stable base 6. Adjust the optical axis 7. Re-adjust the optical axis or change the install location 8. Re-adjust the response time 9. Re-adjust the optical axis, and make the signal reception reaches its top.
Intermittent alarm signal output		

VIII. Technical parameters:

Model	SPB400/V100	SPB400/V400	SPB400/V500
Alert distance	Outdoor 100R Indoor 300R	400R 1200R	500R 1500R
No. of beams	4 beams		
Detection mode	4 beams blocked simultaneous		
Optical source	Infrared digital pulse beam		
Response speed	35~700msec adjustable		
Alarm output	Relay contact output, NO, NC contact rating AC/DC30V 0.5Amax		
Power supply	DC13.8~24V AC11~18V P<10W		
Power consumption	85mA	100mA	105mA
Operation temperature & humidity	-25~55°C 5%~95%RH relative humidity		
Dimensions	Refer to its diagram		
Tamper output	Contact output, NC contact rating DC24V 0.5Amax		
Optical axis adjustment[R]	$\pm 10^\circ$ ($\pm 0.07^\circ$)		
Optical axis adjustment[V]	10° ($\pm 0.07^\circ$)		
Viewfinder	Window style		
Protection against dew, frost	Calcification housing optional		
Material	PC resin		
Net weight	200g receiver + transmitter		
Gross	250g		

IX. Recommended installation guide & physical appearance and dimension

