Dual Beams Solar Wireless Infrared Photo Detector User's Manual
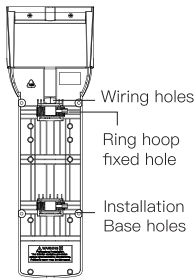
Product Introduction

The intelligent frequency selectable wireless infrared beam detector adopts environmental protection solar power supply, digital frequency conversion technology and long–distance wireless transmission technology. It has the characteristics of high performance, green environmental protection, long service life, simple installation and maintenance, free wiring to realize power supply and alarm needs.It has a wide range of applications and can be used in unattended orchards, fish ponds, construction sites, border posts, sentry boxes, communication rooms and other prevention and control sites.
In order to optimize the service life of the lithium battery supporting the product, this product is designed with battery locking function!If the product cannot start and operate normally after installing the battery, please remove the installed battery and wait for a minute to reinstall the battery product to operate normally.
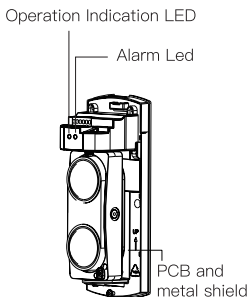
Product Model

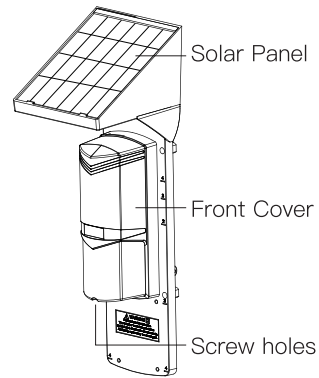| Model	Detection Range
30	30m
60	60m
100	100m

Part name

Solar Panel

Front Cover

Screw holes

Dual Beam Front Cover

Wiring holes
Ring hoop fixed hole
Installation Base holes

Dual Beam Base

Operation Indication LED
Alarm Led
PCB and metal shield

Dual Beam receiver

Connection Terminal
Operation LED indicator
Anti Tamper
Main PCB
Installation Base
Dip Switch
Lens holder
（Horizontal Adjustment）
Convex Lens
Vertical adjustment screws
Horizontal Adjustor
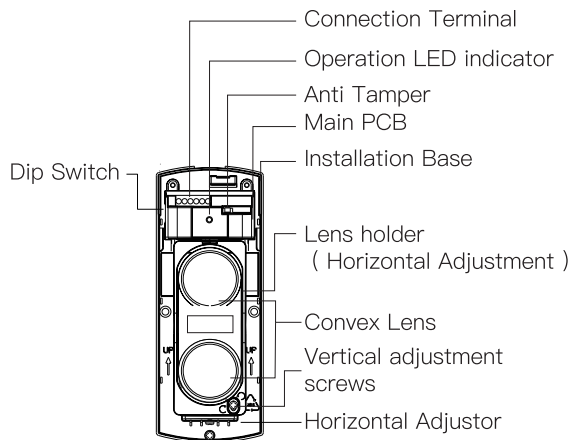
Dual Beam Transmitter

Features

※ Four frequency selectable

※ Type C relays suitable for various applications

※ Anti-tamper protection

※ Solar power supply and micro-power consumption energy-saving design, effectively save electric energy

※ High water proof level: IP65

※ Adjustment range: Horizontal 90 degree, vertical 10 degree

※ Digital filter, Environmental adaptive function minimize false alarm rate

※ Minimum interference and applies to a variety of complex environments
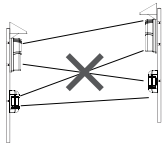
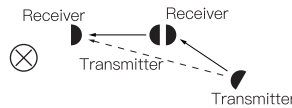## Installation Guide
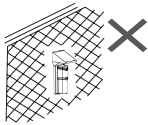
① Installation foundation is unstable

② There are obstacles such as trees between the transmitter and receiver.

③ High voltage tower, signal affects wireless distance

Receiver   Receiver

Transmitter

Transmitter

Receiver   Transmitter

Transmitter

Receiver

④ The infrared beam signals of other detectors should be avoided.

⑤ Multiple sets of detectors can be used for a long-range protection, as per the above picture, avoiding Interference with each other
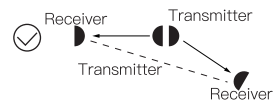
Install Precautions

1. This detector is strictly prohibited for access control, aisle or frequent trigger areas, and areas more than 50 times per 24 hours
2. This wireless infrared beam detector using solar charging power supply. Do not install in poor illumination, sun shelter or indoor
3. If the detector is not used for a long time, the battery is low, so the detector can not start working properly, the solution is as follows:
    ① Place the detector in sunlight and charge for more than 5 hours
    ② Connect to the external DC12V power supply and charge for more than 3 hours
4. If you are using this product for the first time, be sure to operate under the technical guidance of your supplier
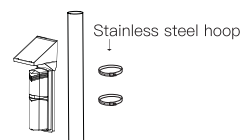
Installation Method

Wall mounted

1. After determining the installation position, use the tool to fix the solar beam to the wall with screws
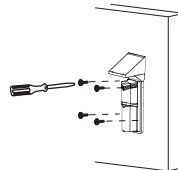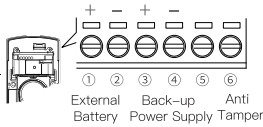
Pole mounted

1. Put the stainless steel hoop into the solar beam back port and lock the screw so that the solar beam and bracket do not shake.
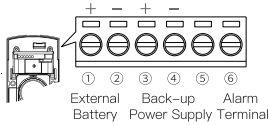
Stainless steel hoop

Terminal interface

Transmitter

+ − + −
① ② ③ ④ ⑤ ⑥
External Battery   Back−up Power Supply   Anti Tamper

※ ① ② Solar battery input : 3.7~4.2VDC(over 4.5V input will permanently damage the device)
※ ③ ④ External backup power supply input : 8~12VDC（over 13.5V input will permanently damage the device)Back−up power supply is not required to be connected in normal use, which is only considered when solar power is insufficient for a long time (e. g., the installation environment has been dark or blocked)
※ ⑤ ⑥ anti−tamper terminal block

Receiver

+ − + −
① ② ③ ④ ⑤ ⑥
External Battery   Back−up Power Supply   Alarm Terminal

※ ① ② Solar battery input : 3.7~4.2VDC(over 4.5V input will permanently damage the device)
※ ③ ④ External backup power supply input : 8~12VDC（over 13.5V input will permanently damage the device)Back−up power supply is not required to be connected in normal use, which is only considered when solar power is insufficient for a long time (e. g., the installation environment has been dark or blocked)
※ ⑤ ⑥ External connection to the alarm terminal: Optical alarm output, need to connect with external

⚠ When installation, do not connect the voltage or current beyond the specification parameters to the terminal, which can cause device damage or burnt
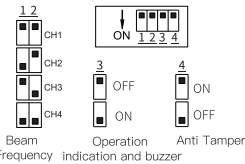
Dip Switch

1 2
CH1
CH2
CH3
CH4
Beam Frequency

ON 1 2 3 4

3
OFF
ON
Operation Indication
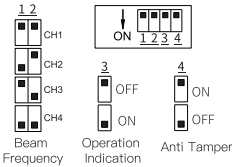
4
ON
OFF
Anti Tamper

Transmitter

(1) Dip 1& 2 are frequency /channels setting, their position on both Transmitter & Receiver must be same(The same frequency ensures normal communication and normal operation of the product).
(2) Dip 3 is operation indication. Setting UP status is OFF, it can save energy.
(3) DIP 4 is anti-tamper setting. Factory default settings is OFF.

1 2
CH1
CH2
CH3
CH4
Beam Frequency

ON 1 2 3 4

3
OFF
ON
Operation indication and buzzer

4
ON
OFF
Anti Tamper

Receiver

(1) Dip 1& 2 are frequency /channels setting, their position on both Transmitter & Receiver must be same(The same frequency ensures normal communication and normal operation of the product).
(2) Dip 3 is operation indication. Setting UP status is OFF, it can save energy.
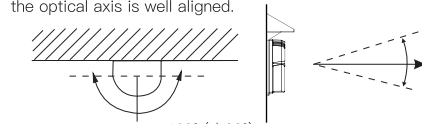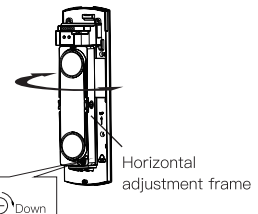(3) DIP 4 is anti-tamper setting. Factory default settings is OFF.

Optic axis adjustment and test

1.Adjust up and down the screws and the horizontal adjustment frame, when the ALARM indicator of the receiver turns on and the built−in buzzer sends out the sound, it indicates that the optical axis is not aligned well.on the contrary,when the alarm indication led signal of the receiver is off, the buzzer does not sound, it indicates that the optical axis is well aligned.

Horizontal adjustment frame

Up and down adjustment of the angle   Up ⊕ Down

Horizontal adjustment 180°（±90°）
Vertical adjustment 20°（±10°）

Notice: Optic axis can be adjusted horizontally ±90 degree more or less, vertically ±10 degree more or less. In order to have the best detection performance, please avoid the detection in 45 degree.

Walking Test

1. After the setting, a walk test must be proceeded. Please refer to the function list as per the table.

	Woking Status	LED indication Status
Receiver	Transmitting	Operation led on
Transmitter	Armed	Operation Led on, Alarm Led off
	Alarm Triggered	Operation Led off, Alarm Led on

Troubleshooting

Symptom	Cause of the malfunction	Solution
Receiver alarm triggered, the panel alarm led is not on	Alarm panel is not armed	Arm the alarm panel by remote control and trigger it.
	Beam detector is not enrolled successfully.	Enroll the detector into the panel
Receiver Alarm is not on	1. Receiver does not receive the signal	1. Re-Allign the optical axis
	2. There is obstruction between transmitter and receiver 3. There is dust on the outer housing of the detector	2. Clear the obstruction. 3. Clean the housing
Detector can not operate properly	1. Terminal block cable is falling off or break	1. check and fix the terminal cable
	2. Detector optical axis is not alligned well.	2. Re-Allign the optical axis.
	3. Low battery power, it automatically turns to battery saving status.	3. Put the detector under sunshine or charge it with power.
Beam is blocked, the receiver alarm led is not on	1. Reflex or other signal is received by the receiver.	1. remove the reflex source or change the optical axis direction
	2. Dual beam or Triple beam are not blocked the same time.	2. Block two beams or three beams in the same time.
Alarm signals output from continues from time to time	1. There is moving obstruction between the transmitter and receiver.	1. Remove the obstruction or change the field.
	2. Optical axis is not alligned perfectly.	2. Re-Allign the optical axis.

Parameters

Model	30	60	80	100
Detecting Range	30m	60m	80m	100m
Beams Detecting Method	2 beams are blocked at the same time			
Infrared Beam Length	940nm Invisiable			
Detection Ranges	100m Max. Outdoor (distance from Tx to Rx)			
Wireless Tranmission Distance	150m (distance from detector to alarm control panel)			
Sensing Speed	100mS			
Solar Panel	Voltage:4V-12V DC Current:>3mA			

Built-in Battery	TX RX	3.7V, 4,000mAH Non-rechargeable Lithium battery * 1
Working Status	Voltage	3.70V / DC
	TX Current	7.30mA
	RX Current	4.60mA
Alert Mode	Voltage	DC 3.70V
	TX Current	7.30mA
	RX Current	53.40mA ± 0.3mA

Beams Frequency	4 channels optional
Wireless Frequency	315MHz,433MHz or 868MHz optional
Alarm Times in 24 hours	≤55 times / Maximum
Water-proof Level	IP65
Anti Tamper	Normally Closed. open when the housing is removed
Adjustment Angle	Horizontal 180°(±90°),Vertical90°(±10°)
Operating Temperature	-25℃~ 65℃
Installation Method	Indoor/outdoor,wall / pole mounted
Dimension	40.5*14*13cm