

## Four Selectable Frequency

### Solar Intelligent Wireless Active Infrared Beam Detector Users Manual

#### Product Introduction

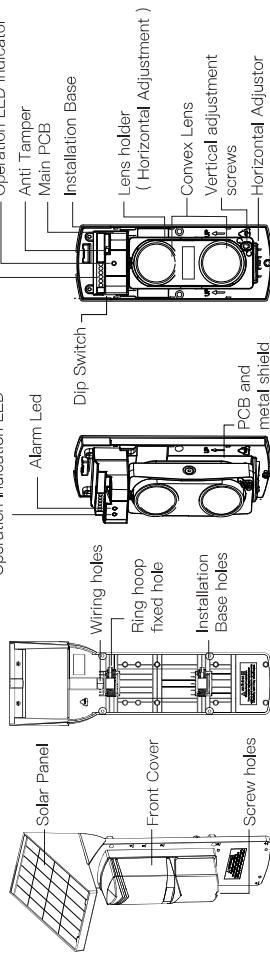
The solar intelligent frequency selectable wireless infrared beam detector adopts environmental protection solar power supply, digital frequency conversion technology and long-distance wireless transmission technology. It has the characteristics of high performance, green environmental protection, long 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 ( Dual Beam ) | Detection Range | Model ( Triple Beam ) | Detection Range |
|---------------------|-----------------|-----------------------|-----------------|
| ABT-30              | 30m             | ABE-100               | 100m            |
| ABT-60              | 60m             | ABE-150               | 150m            |
| ABT-100             | 100m            | ABE-200               | 200m            |

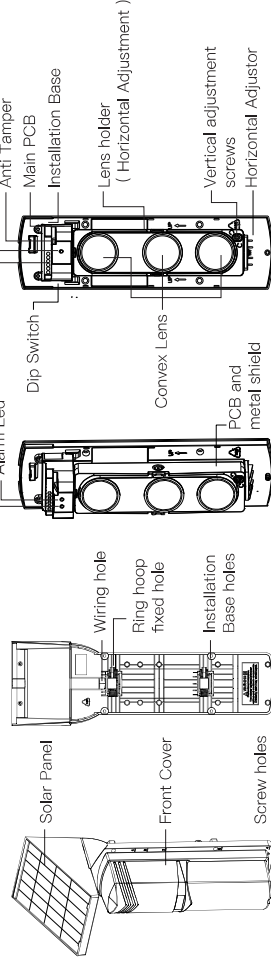
#### Part name



Dual Beam Front Cover

Dual Beam receiver

Dual Beam Transmitter



Dual Beam front cover

Triple Beam receiver

Triple Beam Transmitter

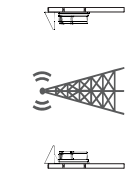
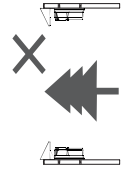
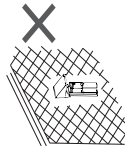
Operation LED: Power on, the led is green on.

Alarm LED: ① In case the transmitter and receiver is not aligned well, the indication led is on. When is aligned, the led is off. ② The led turns on when alarm triggered.

## 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

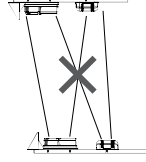
## Installation Guide



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



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

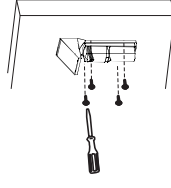
## Install Precautions

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

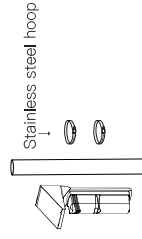
### Wall mounted

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



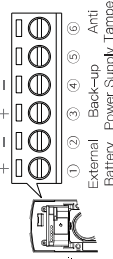
### Pole mounted

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.



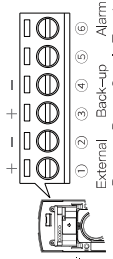
## Terminal interface description ( Connected during production )

Terminal Blocks connection instruction



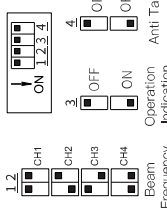
- ※ ① ② Solar battery input : 3.7~4.2VDC( over 4.5V input will permanently damage the device)
  - ※ ③ ④ External backup power supply input : 8-12VDC (over 13.5V input will permanently damage the device) Back-up power supply is not required to be connected in normal use, which is only considered when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

Terminal Blocks connection instruction

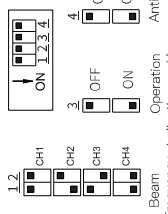


**⚠** When installation, do not connect the voltage or current beyond the specification parameters to the terminal, which can cause device damage or mistire

## Dip Switch



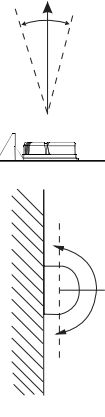
- Dip Switch**
- ① 1 and 2 Two dip switches of the transmitter, setting the beam frequency, must be in the same position as the two dial switches 1 and 2 of the receiver. The transmitter operation indication is set to save energy
  - ② Anti-tamper switch is set on to have the function. Off to disable the function.
  - ③ Factory Setting is off.



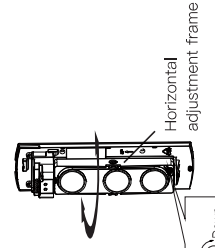
- Receiver**
- ① 1 and 2 Two dip switches of the transmitter, setting the beam frequency, must be in the same position as the two dial switches 1 and 2 of the receiver. The receiver operation indication and buzzer is set to off to save energy
  - ② Anti-tamper switch is set on to have the function. Off to disable the function.
  - ③ Factory Setting 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.



Vertical adjustment 20° (±10°)



Horizontal adjustment frame

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.

## Walk Test

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

|             |                 |                                 |
|-------------|-----------------|---------------------------------|
| Receiver    | Working Status  | LED indication Status           |
| Transmitter | Transmitting    | Operation led on                |
|             | Armed           | Operation Led on, Alarm Led off |
|             | Alarm Triggered | Operation Led off, Alarm Led on |

## Malfunction Checklist

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

## Parameters

| Model                           | ABT-30   | ABT-60 | ABT-100      | ABE-100 | ABE-150 | ABE-200 |
|---------------------------------|--|--------|--------------|---------|---------|---------|
| Detection Range ( Meter)        | 30   | 60     | 100          | 100     | 150     | 200     |
| Detection Method                | The two beams are blocked in the same time                     |        |              |         |         |         |
| Detection Speed                 | 100ms ( run fast )   |        |              |         |         |         |
| Wireless frequency              | 315MHZ or 433MHZ ASK/OOK                                       |        |              |         |         |         |
| Power voltage                   | 3.3V, if connect with other power source, the voltage is 12vDC |        |              |         |         |         |
| Infrared wavelength             | 940nm±20nm   |        |              |         |         |         |
| Alarm Output                    | wired and wireless both  |        |              |         |         |         |
| Maximum alarm times in 24 hours | ≤ 50 times   |        |              |         |         |         |
| Anti-Tamper                     | Normally closed when the housing is removed.                   |        |              |         |         |         |
| Water proof level               | IP65   |        |              |         |         |         |
| Working Temperature             | -25°C to 65°C  |        |              |         |         |         |
| Working Humidity                | 95% max  |        |              |         |         |         |
| Alignment Degree                | Horizontal 180 degree ±90, Vertical 90 degree ±10              |        |              |         |         |         |
| Installation                    | Outdoor/ Indoor, Wall mounted or pole mounted                  |        |              |         |         |         |
| Dimension                       | 40.5x14x13cm   |        | 40.5x14x13cm |         |         |         |