

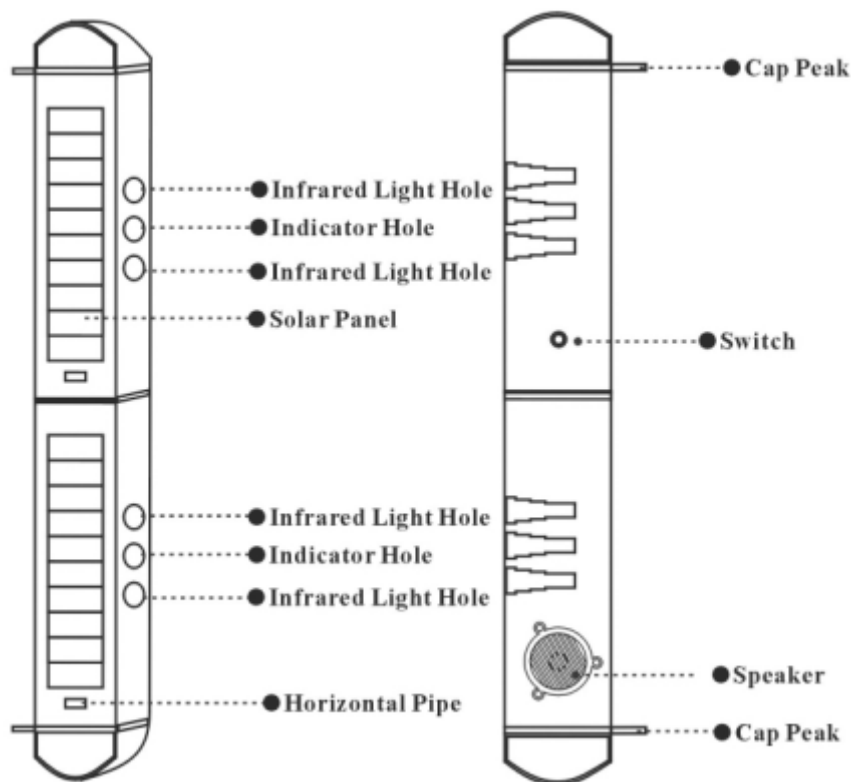
# User Manual for Solar-Powered Multi-beam Active Wireless Infrared Light Walls

## I. Product Overview

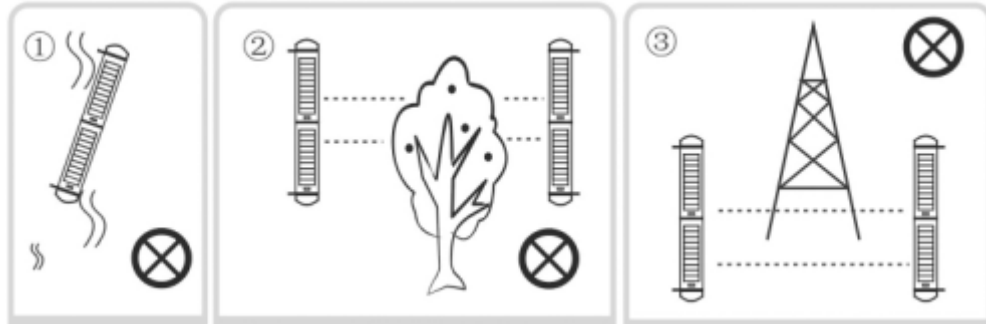
The solar-powered wireless multi-beam light wall is a new-type hi-tech environmentally-friendly product and has obtained national patent. It applies sun's UV rays to supply power and charge for itself, and adopts the wireless signal transmission device to transmit alarm signal instead of power cable and signal line. The multi-beam light wall has a built-in loudspeaker with on-the-spot alarm function.

The company has developed 4-beam, 6-beam and 8-beam light walls, which are widely applied in various courtyards and fences. Our light walls are classified into two types, namely HB-T001Q Type and HB-T001R Type according to wireless signal transmission frequency.

## II. Name of Components



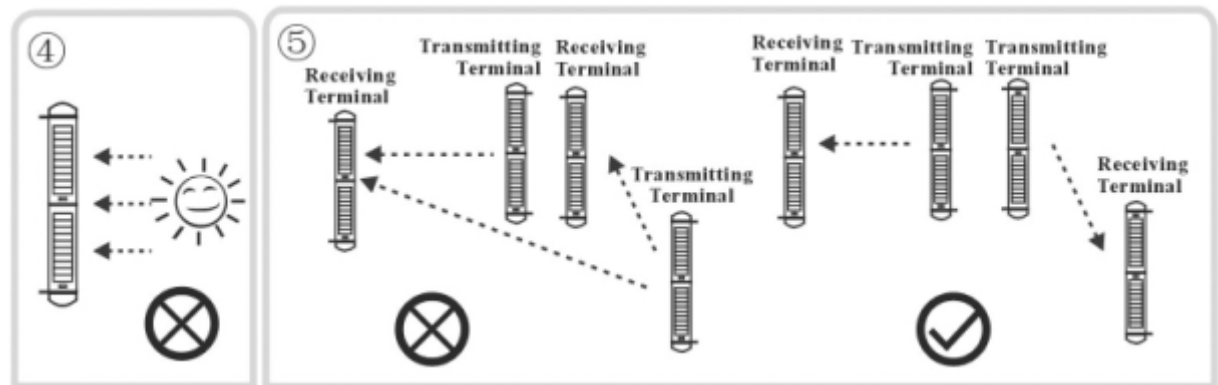
## III. Installation Precautions



Note 1: Never install the multi-beam light wall at an inclined angle.

Note 2: Make sure that there is no obstacle between two light walls.

Note 3: The high-voltage tower and the signal tower may influence wireless transmission distance.



Note 4: Keep the infrared light hole exposed to direct sunlight.

Note 5: Multiple light walls shall be installed for long-distance alarm in accordance with the installation instructions shown in the above-mentioned figure to avoid mutual interference among beams.

### Other Precautions

- ① Before installation, remove the plastic film on the solar panel of the active infrared light wall.
- ② Never install this light wall in door access systems, passages, areas prone to trigger an alarm, or areas which could trigger an alarm more than 50 times per 24 hours.
- ③ This multi-beam light wall is a solar-powered wireless product, so it shall not be installed, tested or operated indoors or in any dark place with a sunlight intensity of less than 2200lux.
- ④ This product can trigger an alarm less than 50 times under normal sunlight conditions. Never try to test maximum alarm times indoors, otherwise, it may cause batteries subject to low voltage problem, which may impede normal operation of this product, and even cause damage to this product.
- ⑤ Before first operating this product, please follow the technical guide provided by the supplier.

**Special Statement:** Any loss resulting from failure or damage caused by improper use or failure to observe precautions or instruction manual shall be borne by users.

## IV. Operating Phenomena

① Short press the ON/OFF button at the rear of the transmitting terminal <F> and the receiving terminal <S> N times (N=3-10), and after about 3 seconds, there are 3-8 beeps respectively from the transmitting terminal <F> and the receiving terminal <S> of the multi-beam light wall, and at the same time, the indicator lamp of the multi-beam light wall will flash 3 times, which signifies the multi-beam light wall is normally powered on. When the “ON/OFF” key is pressed, it means the light wall is turned on if there is a “Beep” sound prompt. (Light wall loudspeaker can provide 4 alarm sound effects, which can be set through ON/OFF button. N represents number of times ON/OFF button is pressed. If N=3-6, different sound effects will be provided; if N=7-10, sound is default to MUTE)

② Once normal prompt is given out at start-up, the indicator lamp at the transmitting terminal <F> is continuously on for 30 seconds and then goes out, and the receiving terminal <S> will light up for a long time. Keep the transmitting terminal <F> aligned with the receiving terminal <S>. If the indicator lamp at the receiving terminal <S> flashes for 30 seconds and then goes out, it signifies the multi-beam light wall is normally operating.

③ After the indicator lamp at the receiving terminal <S> normally goes out, Block up three infrared holes of the light wall with thick materials, let the receiving terminal <S> transmit wireless alarm signals, the indicator lamp at the receiving terminal will light up for about 5 seconds, and then the indicator lamp at the receiving terminal will flash for 30 seconds, which signifies the multi-beam light wall is operating again. Repeat the above-mentioned steps.

④ Press the ON/OFF button at the rear of the transmitting terminal <F> and the receiving terminal <S> N times (N=3-10), and after about 3 seconds, there are long beeps lasting for about 10 seconds respectively from the transmitting terminal <F> and the receiving terminal <S> of the multi-beam light wall, and at the same time, the indicator lamps at the transmitting terminal <F> and the receiving terminal <S> will light up, and later beeps stop and indicator lamps go out, which signifies the multi-beam light wall is normally powered off. When the “ON/OFF” key is pressed again, it means the light wall is turned off if there are two “Beep, Beep” sound prompts.

### Other Precautions

① In normal operation state, when the “ON/OFF” key is pressed twice, a turn-off signal will be sent after an alarm signal is transmitted.

② If the receiving terminal fails to receive the infrared light pulse emitted by the transmitting terminal, the indicator lamp at the receiving terminal will light up continuously for 30 minutes, and then go out. Once the receiving terminal has received the infrared light pulse emitted by the transmitting terminal, the indicator lamp at the receiving terminal will light up intermittently, and then flash, which signifies the multi-beam light wall is normally operating.

③ After the multi-beam light wall is normally powered on, if no natural light or light with an intensity of more than 2200LX is reflected onto the multi-beam light wall every 100 hours, the multi-beam light wall will be automatically powered off.

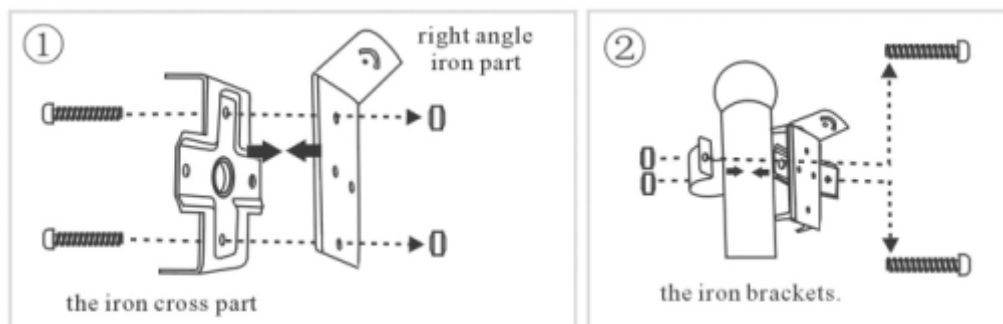
④ For the finished multi-beam light wall, the transmitting terminal has been well paired with the receiving terminal. Any unauthorized pairing of the transmitting terminal and the receiving terminal is impermissible.

If any special circumstance occurs, please contact the manufacturer or distributor immediately.

⑤ Never put the multi-beam light wall in any dark place or cover the solar panel with any materials at power-on, otherwise, the multi-beam light wall may not be normally powered on.(3 long sound prompts)

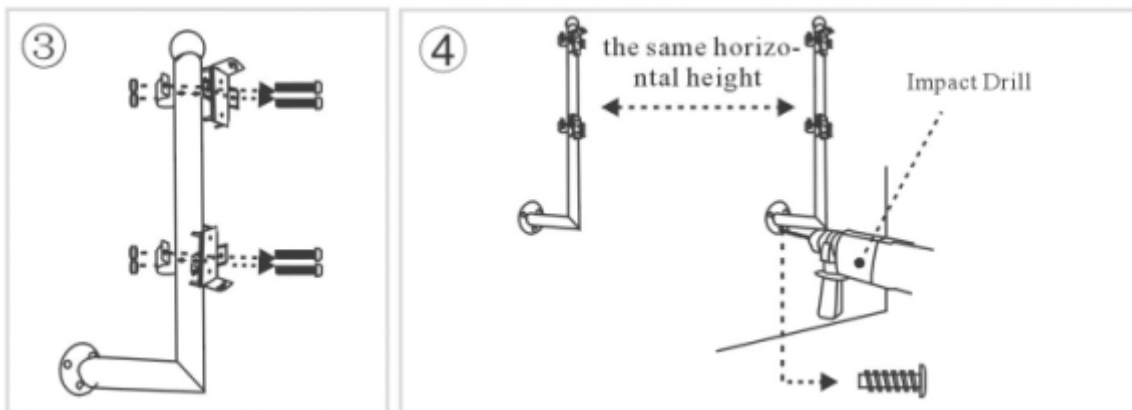
⑥ Press the ON/OFF button of the multi-beam light wall to confirm if the multi-beam light wall is under power on or power off mode. If a beep prompt is given out, it means the multi-beam light wall is under power on mode, otherwise, it is under power off mode.

## V. Installation Procedures



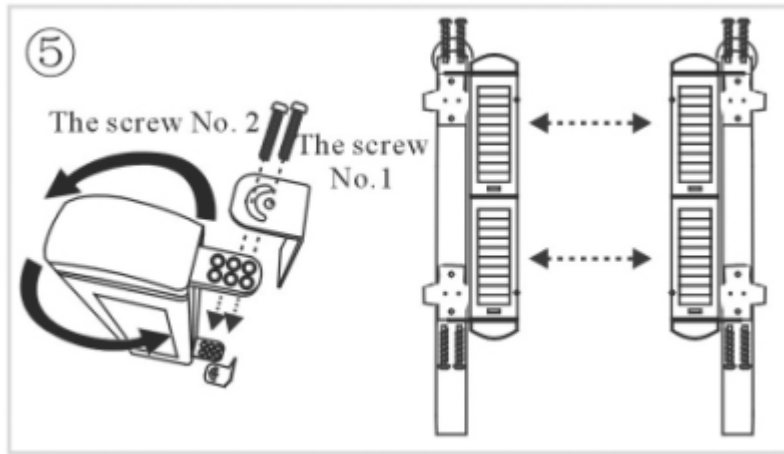
① Fasten the iron cross part and right angle iron part with screws, and ensure installation direction of screws is correct.

② Fasten the arc-shaped iron holder and the iron cross holder in iron brackets.



③ Fasten the other set of iron parts in the iron bracket in the same way as mentioned above according to height of light walls.

④ Determine a suitable installation height, make holes in wall with a percussion drill, and then fasten iron brackets in wall with metal screws. Try to keep two brackets respectively for transmitting terminal and the receiving terminal of the light wall in the same horizontal height.

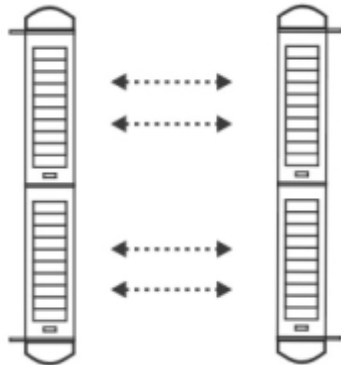


⑤ Get the light wall prepared for installation, tighten screw No. 1, and adjust the light wall to ensure the transmitting terminal <F> and the receiving terminal <S> are located in the same vertical and horizontal planes. If any deviation occurs during calibration, move the light wall left or right. Determine suitable position for screw holes, calibrate the light wall, and finally tighten screw No. 2. For more calibration precautions, please refer to Part VI in User Manual.

**Note:** The installation procedures of 6-beam light wall are the same as those of 8-beam light wall.

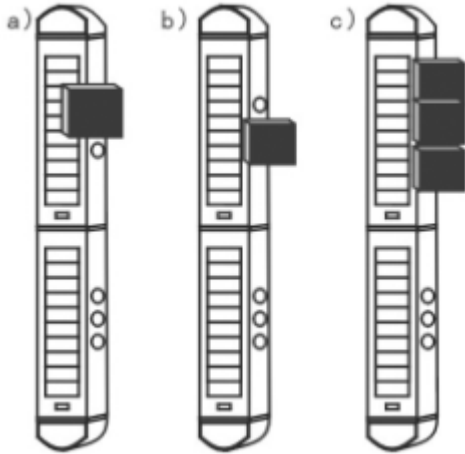
## VI. Installation & Calibration Precautions and Test Methods

### Calibration Precautions



- ① Make sure that the power switch of the multi-beam light wall is turned on.
- ② Make sure that the multi-beam light wall is normally operating.
- ③ Fasten the light wall in iron brackets with screws through screw holes in the cap peak. Fasten and tighten screw No. 1, and move the light wall left or right according to calibration requirements, keep the transmitting terminal <F> aligned with the receiving terminal <S>, and finally tighten screw No. 2.

### Test Method for Verifying if Multi-beam Light Walls are Well Mounted



①Verify if the multi-beam light wall is normally operating by confirming if the indicator lamp of the multi-beam light wall normally flashes.

②Hole Block-up: a)The multi-beam light wall does not alarm when blocking up two infrared light holes at the upper end of the multi-beam light wall.

b)The multi-beam light wall does not alarm when blocking up two infrared light holes at the lower end of the multi-beam light wall.

c)The multi-beam light wall alarms when blocking up three infrared light holes.

③Three light holes constitutes a complete group. The above-mentioned calibration verification method is applicable to any group of light holes, including 6-beam light wall and 8-beam light wall.

### Alarm Modes



①Infrared light holes are not completely blocked up (Fingers do not completely block up two infrared light holes respectively at active infrared detectors when the transmitting terminal is aligned with the receiving terminal).

②The multi-beam light wall does not alarm if the intruding object moves under free fall.

③The infrared light holes of the multi-beam light wall are completely blocked up for more than 1s by thick materials.

**Note:** 1、 If the host can receive alarm information when the multi-beam light wall correctly alarms more than 3 times, that means the multi-beam light wall is well installed.

2、 The above-mentioned alarm modes are applicable to 6-beam and 8-beam infrared light walls as well.

## VII. Check for Abnormality

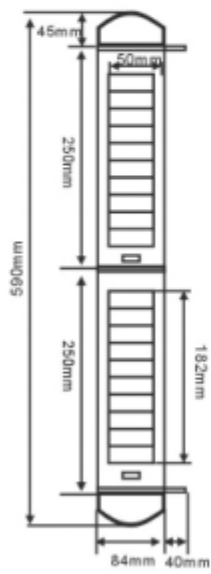
<b>Failure Symptom</b>	<b>Failure Reasons</b>	<b>Failure Recovery Methods</b>
<b>The multi-beam light wall does not alarm, but the alarm lamp lights up</b>	①The light holes of the multi-beam light wall are not completely blocked up.	Completely block up infrared light holes with thick materials
	②The host is not armed.	Arm the host by remote control, and then trigger an alarm
	③The antenna of the host is not retracted, and wireless distance does not conform to product specifications.	Retract the antenna
	④ The multi-beam light wall does not automatically learn code with the host.	Keep the multi-beam light wall automatically learn code with the host
<b>The alarm lamp of multi-beam light wall does not light up</b>	① The multi-beam light wall has been not calibrated for a long time, and battery protection works.	Calibrate the multi-beam light wall again
	②The battery voltage of multi-beam light wall is too low, so that the multi-beam light wall automatically runs in battery protection mode.	Charge the multi-beam light wall in a sunny place. Return batteries to the manufacturer if batteries fail to work.
	③If the alarm lamp does not light up, but the multi-beam light wall can alarm, it means the lamp does not work.	Return the alarm lamp to the manufacturer
<b>The multi-beam light wall does not normally work when powered on</b>	①Inappropriately powered on	Check if the active infrared light wall works normally when powered on
	②Not keep the transmitting terminal of the light wall aligned with the receiving terminal of the light wall.	Keep the transmitting terminal of the light wall aligned with the receiving terminal of the light wall.
<b>The multi-beam light wall gives out a prompt sound lasting for 2 seconds when powered on</b>	①The battery voltage of g multi-beam light wall is too low	Charge the light wall in a sunny place.
	②When powered on, the light wall shall be kept in a shady place or the solar panel of the light wall shall be covered with something.	Make sure the solar panel of the light wall is kept in a sunny place when turning on the light wall.
<b>The multi-beam light wall does not give out a sound prompt when powered on</b>	①Any operation error occurs when pressing the ON/OFF button	Press the ON/OFF button in a proper way
	②The multi-beam light wall is kept in a dark place or the solar panel is covered with any materials when powered on.	Keep the multi-beam light wall in a sunny place when powered on
	③The multi-beam light wall does not work.	Return the multi-beam light wall to the manufacturer

## VIII. Technical Parameters

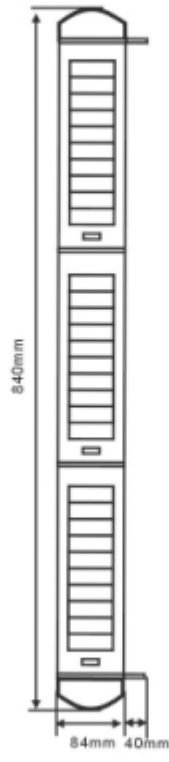
<b>Technical Parameters</b>	<b>Solar-Powered Multi-beam Active Wireless Infrared Light Walls (HB-T001Q &amp;HB-T001R)</b>
<b>Infrared Distance</b>	100m
<b>Wireless Transmitting Distance</b>	100m 100km
<b>Wireless Transmitting Frequency</b>	FM: 433MHz
<b>Maximum alarm times in 24 hours</b>	4-beam light wall; doorbell ringing times: $\leq 50$ ; alarm times per minute: $\leq 3$ 6-beam light wall; doorbell ringing times: $\leq 50$ ; alarm times per minute: $\leq 3$ 8-beam light wall; doorbell ringing times: $\leq 50$ ; alarm times per minute: $\leq 3$
<b>Battery Capacity</b>	500mAh (Transmitting Terminal), 1000mAh (Receiving Terminal)
<b>Working environment temperature range</b>	$-30^{\circ}\text{C}\sim 70^{\circ}\text{C}$
<b>Number of infrared beams</b>	4 beams、6 beams、8 beams
<b>Operating Voltage</b>	3.3V
<b>Battery Type</b>	LiFePO4 Battery
<b>Static Operating Current</b>	For 4-beam light wall, transmitting terminal $\leq 0.5\text{mA}$ , receiving terminal $\leq 0.5\text{mA}$ For 6-beam light wall, transmitting terminal $\leq 0.75\text{mA}$ , receiving terminal $\leq 0.75\text{mA}$ For 8-beam light wall, transmitting terminal $\leq 1\text{mA}$ , receiving terminal $\leq 1\text{mA}$
<b>Infrared light frequency</b>	secondary modulation & encoding based on 38KHZ
<b>Infrared light wavelength</b>	$940\text{nm} \pm 20\text{nm}$
<b>Solar electric panel output current</b>	For 4-beam light wall: $\geq 1\text{mA}$ at a sunlight intensity of 1800LX For 6-beam light wall: $\geq 1\text{mA}$ at a sunlight intensity of 1800LX For 8-beam light wall: $\geq 1\text{mA}$ at a sunlight intensity of 1800LX (Note: The outdoor sunlight intensity in cloudy or rainy days is about 2000LX)

## IX. Dimension

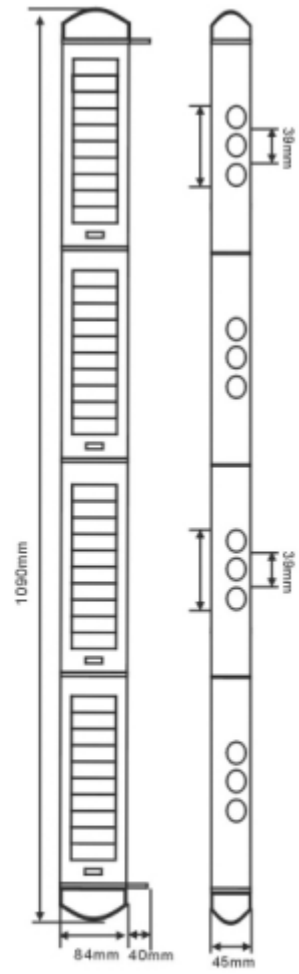




HB-T001Q4  
HB-T001R4



HB-T001Q6  
HB-T001R6



HB-T001Q8  
HB-T001R8