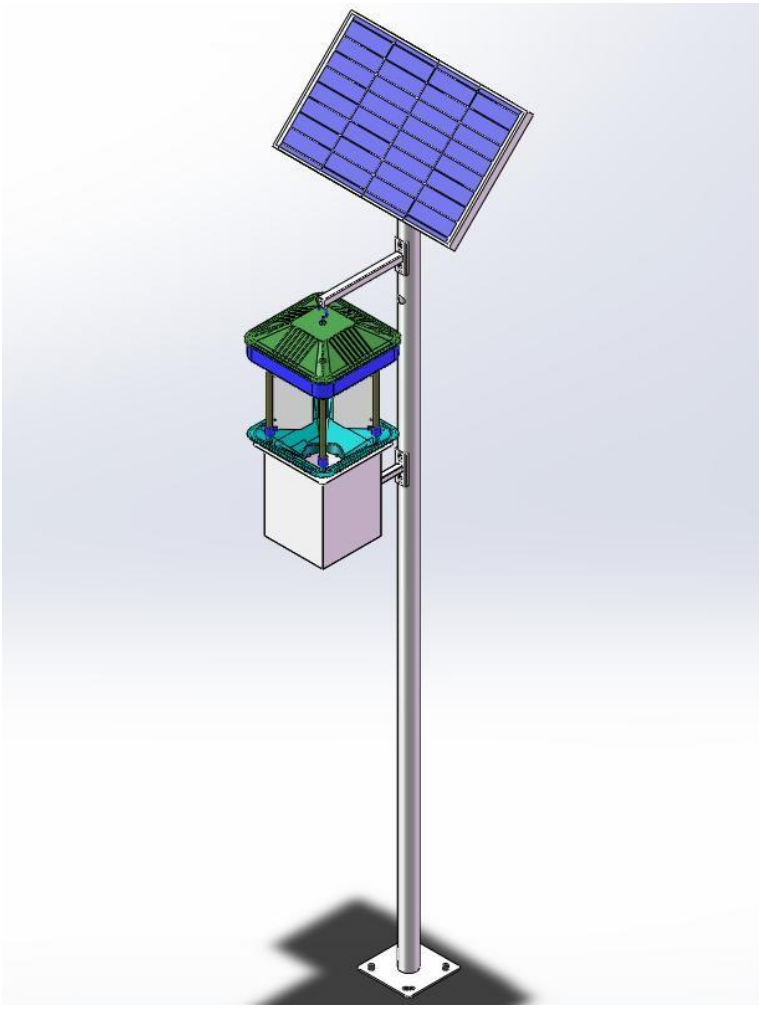
Wind-suction Solar Insect Trap Light

User Manual



Changsha Zoko Link Technology Co., Ltd.

Insecticidal Lamp Overview

Due to continuous improvements to our products, the product you purchased may differ from the illustration in the manual. Please refer to the actual product. Before use, please read this manual carefully and keep it for future reference.

Product Introduction

The wind-suction solar insecticidal lamp is a physical insect control device that uses light waves to attract pests to the lamp. The fan generates a negative pressure airflow that sucks the insects into the collection chamber, where they are wind-dried and dehydrated, ultimately killing them. The wind-suction insecticidal lamp developed by our company has improved the light source and insect control methods, surpassing the ability of conventional insecticidal lamps to eliminate small pests and significantly increasing the efficiency of pest control. This device is powered by a solar panel, which stores energy during the day and provides power to the lamp at night to attract pests. Maintenance costs are low, and only regular cleaning of the collection device (including insects and dust) is required.

Product Uses

The wind-suction solar insecticidal lamp consists of an insect-attracting light source, insect-killing components, insect collection components, and supporting components. It features a simple structure, easy installation, strong operability, a wide range of insect control capabilities, and is environmentally safe and non-toxic. It can be widely used in agriculture, forestry, warehouses, fish ponds, and other fields to effectively prevent various Lepidoptera pests.

Design Principle of the Wind-Suction Solar Insecticidal Lamp

The wind-suction solar insecticidal lamp uses solar energy. When sunlight strikes the solar panel, it generates the photovoltaic effect, and the circuit converts the light energy into electrical energy, which is stored in the lithium battery. As night falls, the control system activates the insect-attracting light through the light control function. The light attracts surrounding pests, and a spiral powerful negative pressure fan sucks the insects into the collection device. After 6 hours, pest activity is reduced, and beneficial insects begin to emerge.

The light automatically turns off, thus eliminating pests while protecting their natural predators, maintaining the balance of the ecosystem. This forms a "physical pest control" and "biological pest control" combination of "1+1" pest control method.

The wind-suction solar insecticidal lamp complies with the national standard GB/T 24689.2-2017 "Plant Protection Machinery—Insecticidal Lamp.

Wind-absorbing solar insecticide lamp technical parameters

Lithium Battery	Adopting solar dedicated lithium iron phosphate battery, battery capacity 12Ah, DC12.8V, with overcharge, overdischarge, short circuit protection, battery embedded in the lamp head.
Solar Panel	Monocrystalline silicon panel, power ≥40WP, actual conversion efficiency ≥21%, the top of the lamp post tilt

	fixed installation.
Lamp Type	Adopting two kinds of spectral LED lamps with wavelengths of 365 and 395.
Lamp power	≥3W
Lamp Glow Time	≤5 seconds (or ≤1 second, depending on specific model)
Trap light source wavelength range	320nm-680nm (main wave: 365/404/435/545/577nm)
Fan type	Powerful spiral fan
Wattage	20W/12V (or 12W/12V depending on model)
Rotation speed	2200 rpm
Lamp pole material	60mm diameter galvanized pipe material, 2.0mm wall thickness, the whole lamp height 3 meters.
Appearances	The appearance is neat and beautiful, the surface is smooth and clean, and the color is uniform; the design of each component is reasonable and complete (no cracks, breaks, gluing, splicing and other defects).

Insect Catch Box	Plastic swivel (or bayonet) type insect traps.
Control area	50 to 60 acres (may vary depending on specific environment and pest species)
Lamp power	≤30W (or ≤15W depending on model)
Safety	Lamp life is up to 6000 hours, if the killing effect decreases after 3000 hours, please replace the lamp.
Protection grade	IP65

Smart Control Parameters

- Light Control Function: Automatically switches the lamp on and off based on the day-night cycle.

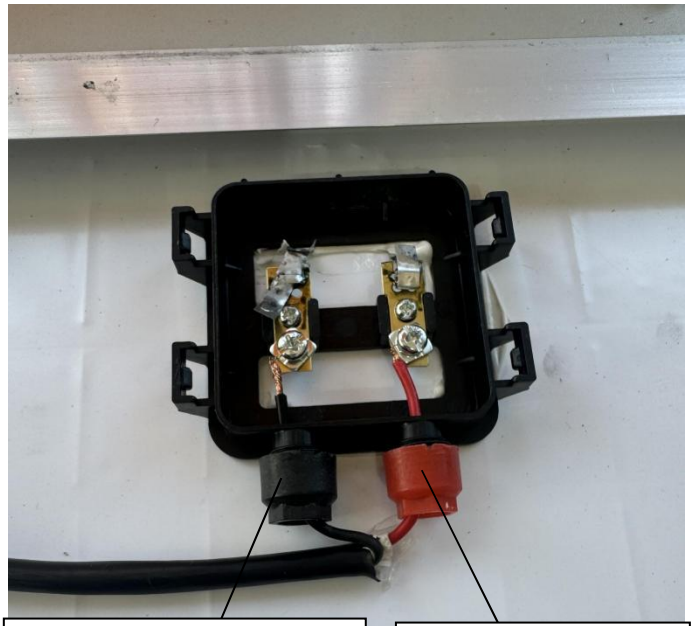
- Time Control Function: Multiple time control modes (e.g., 8 modes) can be set according to the behavioral patterns of target insects.

- Rain Control Function: When the humidity exceeds 95% RH, the insecticidal lamp automatically enters a protective mode.

- Temperature Control Function: When the air temperature is lower than 5±2°C, the insecticidal lamp enters a dormant state. When the air temperature exceeds 5±2°C, the insecticidal lamp starts working.

Wiring Method

1. The wiring for the solar panel is shown in the following diagram:



The black wire is the negative terminal of the power supply, access it through the black connector hole and press the wire firmly.

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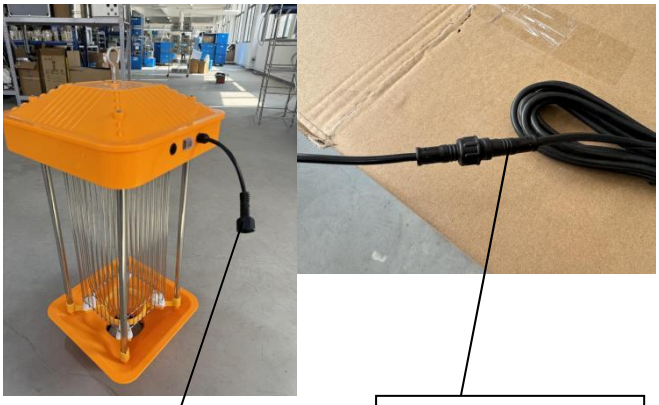
2. Insecticidal lamp head and solar panel power cord male and female plug as shown in the following figure:

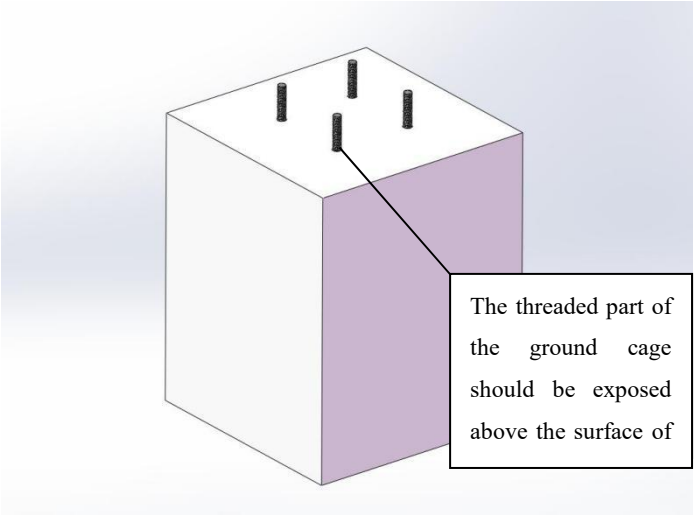


Insect control light lamp head (male plug for connection wire)

40W solar panel (female plug for connection)

Installation Method

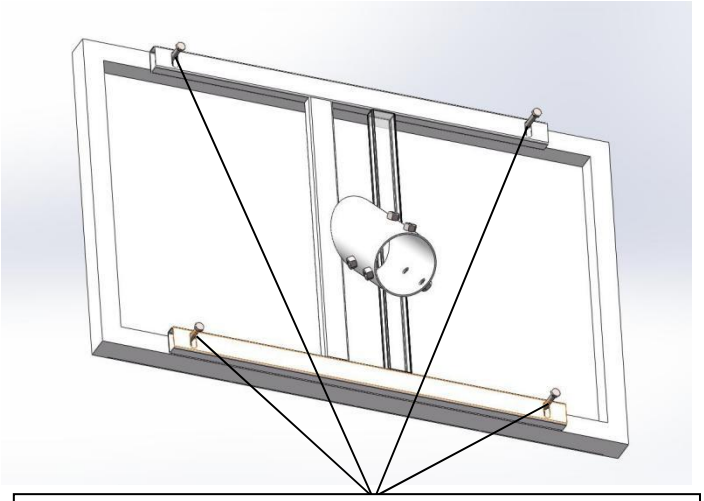
1. Ground Cage Installation: Pour a cement-based pillar approximately 400mm×400mm×500mm in size at the installation site. Then, cast the steel reinforcement ground embedding component from the product parts into the cement pillar. The diagram below shows this installation method:



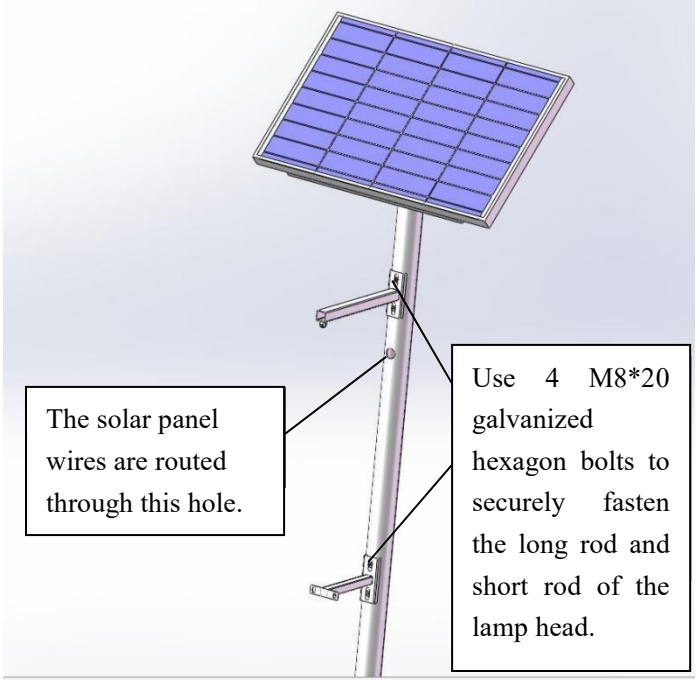
The threaded part of the ground cage should be exposed above the surface of

The threaded part of the ground cage should be exposed above the surface of the cement pillar. The threaded area should be protected with insulating tape.

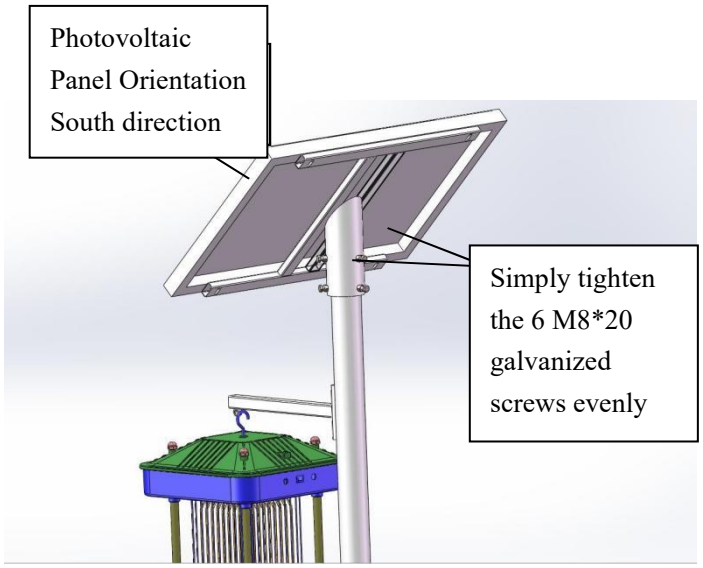
2. 40W solar panel with I-beam bracket mounting:



Use 4 sets of M630 galvanized hexagon socket screws, along with flat washers, spring washers, and nuts, to secure the 40W solar panel to the I-shaped solar panel bracket.



3. 40W solar panel fixed mounted to the pole:



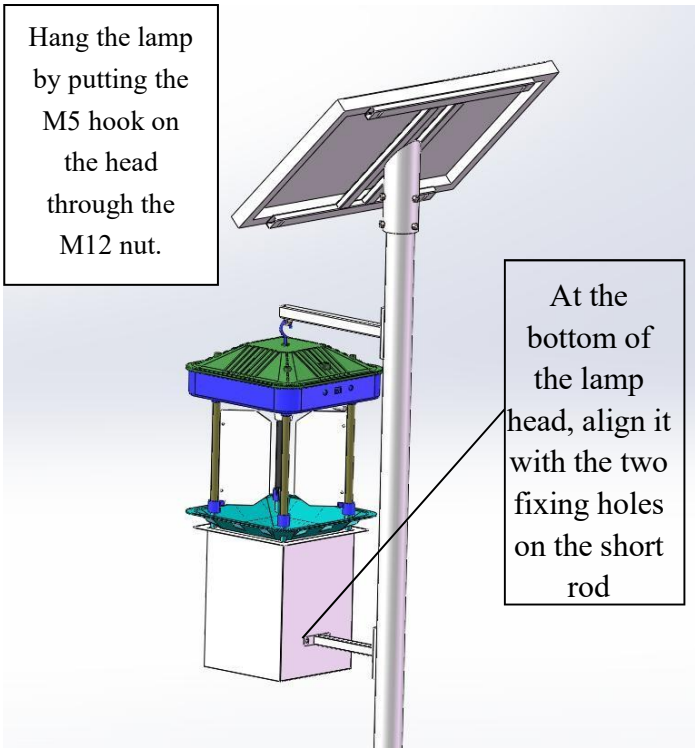
Photovoltaic Panel Orientation：**South direction**

The solar panel wire is threaded through the center into the tube.

Simply tighten the 6 M8*20 galvanized screws evenly.

4.Wind-absorbing insecticide lamp head fixing rod installation:

5. Wind-Suction Insecticidal Lamp Head Installation:

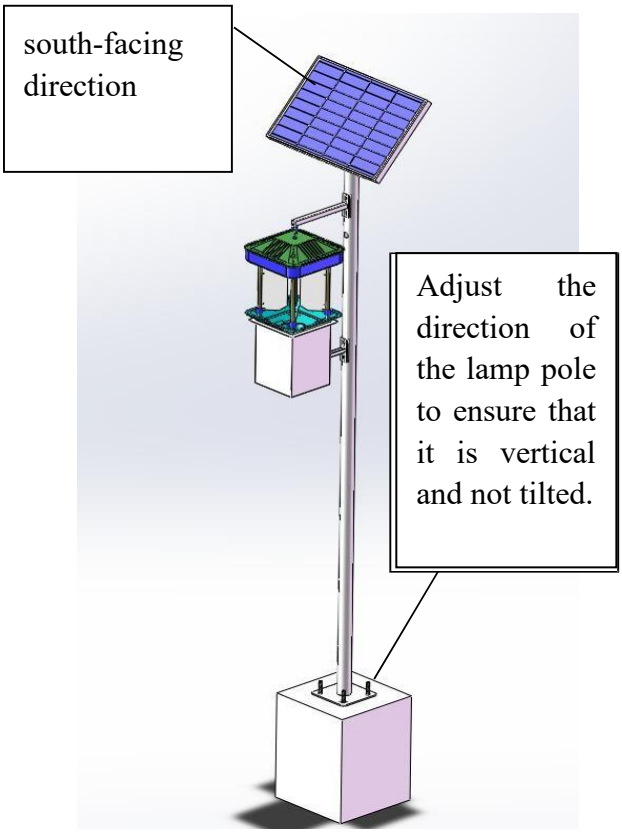


Hang the lamp by putting the M5 hook on the head

through the M12 nut.

At the bottom of the lamp head, align it with the two fixing holes on the short rod, and secure it using 2 sets of M6*25 galvanized screws.

6、Insecticide lamp pole installation



The panels are installed in a south-facing direction for longer light hours and more efficient power generation.

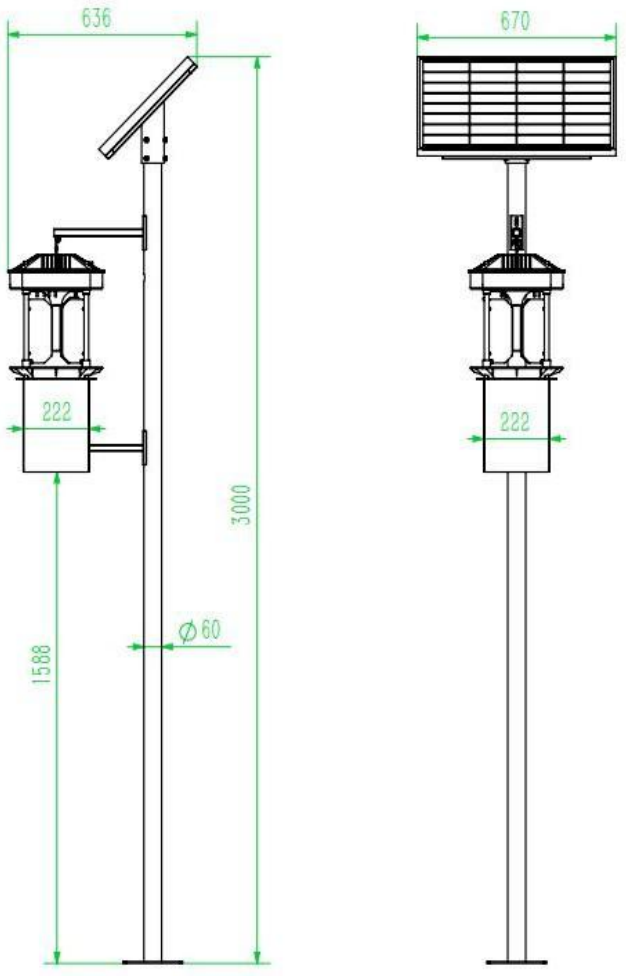
Adjust the direction of the lamp pole to ensure that it is vertical and not tilted. Then, use 4 sets of M14 nuts, flat washers, and spring washers to securely fasten the lamp pole base to the ground cage threaded rod.

8. Adjust the product so that the solar panel is placed with its longitudinal axis facing the north-south direction.

9. Based on actual conditions, promptly clean the insects attached to the high-voltage electroshock net and remove the pests from the collection box to ensure effective pest control.

10. Regularly wipe off the dust from the solar panel using a dry cloth to maintain optimal charging performance.

Product Size



Troubleshooting and Handling Methods

1. The insect control light does not work at night
- Causes:
  1. Battery is dead
  2. The connection of the solar panel's plug wire is not properly installed
  3. Controller malfunction
- Solutions:
  1. Use a multimeter to measure the battery voltage
  2. Reconnect the solar panel's four-core plug wire
  3. Contact customer service

4. In sunlight, the insect control light's solar panel voltage, current, and power are 0
- Causes:
  1. The controller has not detected the solar panel's voltage
  2. Poor connection or incorrect polarity of the solar panel wires
  3. The solar panel is damaged
  4. The solar panel specification does not match the battery system
- Solutions:
  1. Reconnect the solar panel's plug wire
  2. Open the solar panel's back cover to check the wiring, and use a multimeter to measure the solar panel's voltage.

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