Solar Power Kit

User Manual

Solar Kits – HS-N Series

English translation

Introduction

Please read this manual carefully before using the product and keep this document for future reference.

Modification History

Version	Modification	Date
V1.0.0	Initial version	2022.04

Safety Instructions

The following requirements concern the correct use of the product. To prevent any danger and material damage, please read them carefully before using the product and strictly observe them during use.

Transport Requirements

Basic requirements for lithium battery transport

Lithium batteries and lithium battery packs are classified as Category 9 dangerous goods:

1. Exceptions are provided for the transport of certain Class 9 lithium batteries;
2. Strict restrictions have been imposed on the transport of samples;
3. Restrictions on lithium batteries transported daily by passengers.

Storage Requirements

Parameter	Standard
Short-term temperature (<1 month)	–20 to 60 °C
Medium-term temperature (<3 months)	–20 to 45 °C
Long-term temperature (>3 months)	–20 to 20 °C
Relative humidity	≤ 75% RH
State of charge	40% to 60%

1. The battery pack must be charged once every three months during extended storage;
2. Please use the charger with a standard charging current. Charging time is 0.5H to 1H to ensure the battery pack retains 40%–60% charge. Prolonged storage without charging may cause irreversible damage to battery cells.

Installation and Usage Requirements

1. During installation, do not place heavy objects on the product or stack them;
2. Avoid mechanical vibrations, collisions, and impacts;
3. If any abnormality occurs during charging or use, stop the operation immediately and inform qualified personnel;
4. See the instructions for detailed installation steps.

Maintenance and Repair Requirements

1. Do not use gasoline or other organic solutions to clean the product. If necessary, use a soft dry cloth;
2. This product contains no user-serviceable parts. Do not disassemble or modify the battery circuit without authorization, or the warranty will be voided. For problems, contact the distributor or return the product for maintenance;
3. The product reserves the right to continuous improvement. Changes may be made without prior notice.

Product Warranty Card

Thank you for purchasing our products. To protect your legitimate rights and interests, please purchase through official channels. The company is committed to providing standard warranty service.

Product failure caused by the following circumstances is not covered by the warranty:

1. Beyond the stipulated warranty period;
2. Damage caused by intent or negligence, including use in an abnormal environment;
3. Accidents caused by force majeure (fire, flood, earthquake, lightning, etc.);
4. Social issues (unrest, war, strike, etc.) causing deterioration of service conditions;
5. Interruption of energy supply (electricity, water, fuel, etc.);
6. Failure caused by third-party products, software, services, or actions;
7. Normal discoloration, wear, and consumption of the product;
8. Accessories, consumables, and structural parts (except manufacturing defects);
9. Inability to present a valid warranty certificate and purchase invoice. Serial number label modified or removed;
10. Non-compliant use of the product according to the user manual;
11. Product integrity and appearance are not guaranteed. Inspect products upon receipt.

Information to Fill In

Field	Value
Product	
Purchase date	
Serial number	
User name	
Dealer name	
Address	
Contact person	
Phone	
Fax	
Email	

Table of Contents

Chapter 1 – Product Overview

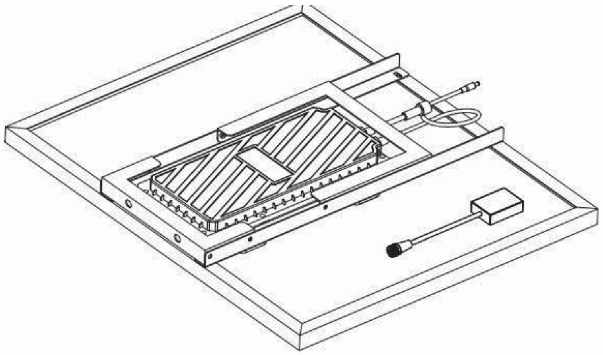
1.1 Functional Features

- Professional integrated solar power system, composed of solar panels and a lithium battery pack. Features “two eases and two high performances” (easy to install, easy to use; long lifespan, high reliability). Without mains connection, provides stable and reliable power. Used in urban construction, road surveillance, rural transformation, water protection, forest fire prevention.
- High-performance control chip: battery activation and pre-charging, real-time monitoring and protection, conversion efficiency >96%.
- Monitoring indicator light: real-time feedback of solar panel, battery, and equipment status.
- Energy production unit: high-efficiency monocrystalline silicon wafers, conversion efficiency >19%, lifespan >20 years.
- Energy storage unit: ternary lithium battery, safe and reliable, deep cycle, lifespan >5 years.
- Automatic heating at 0°C, suitable for low-temperature regions.
- U-clamp included (pole diameter 80–114 mm), pole installation, firm hold.
- IP65 aviation connectors, easy to install, prevents failures from short circuits.

1.2 Technical Specifications

Specification	H50S100-N
Rated PV power	100W
Rated voltage	11.1V
Rated capacity	50Ah
Max. charging current	10A
Overcharge protection voltage	12.6V
Under-voltage protection	9V
Max. discharge current	10A

1.3 Appearance

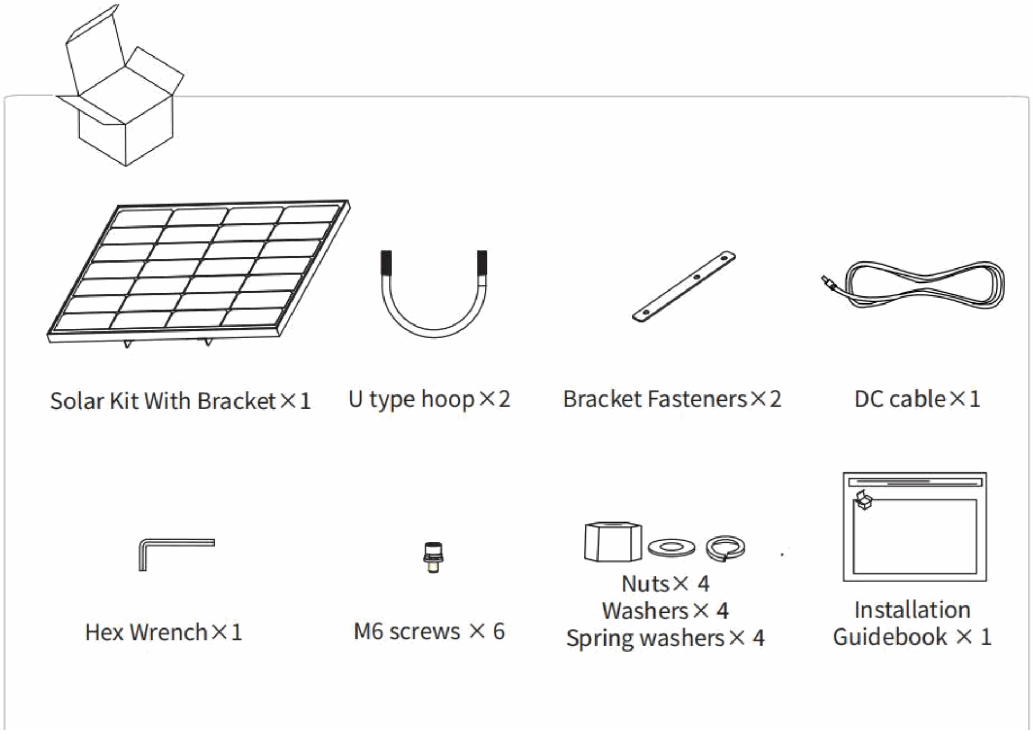


Chapter 2 – Product Installation

2.1 Packing List

Before installation, please ensure that the devices in each package are in good condition and that all components are ready.

Item	Unit	Quantity
Solar kit with bracket	set	1
U-clamp with M10 screws	set	2
Bracket fasteners	set	2
DC cable	set	1
Hex wrench	piece	1
M6 screws	piece	6
Nuts, washers, spring washers	set	4
Installation guide	piece	1



2.2 Installation Method

The installation method must be firm and reliable.

Step 1 :

Place the solar panel kit flat with care.

Step 2 :

Lift the two brackets.

Step 3 :

Secure the bracket fasteners on both sides (place the screw holes at the top of the bracket, place the clamping plate in the inner holes).

Step 4 :

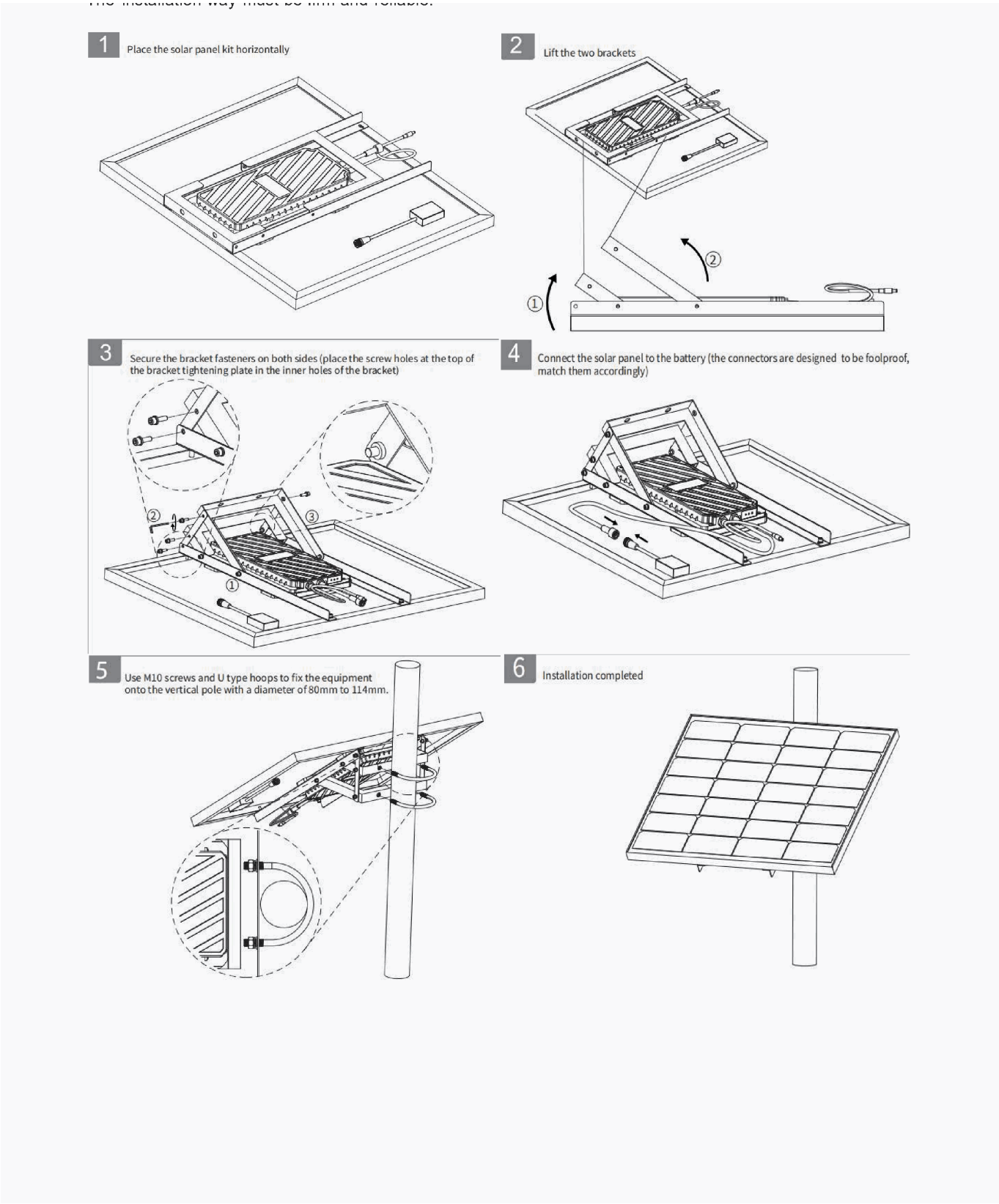
Connect the solar panel to the battery (waterproof connectors, match them correctly).

Step 5 :

Use M10 screws and U-clamps to fix on a vertical pole (diameter 80–114 mm).

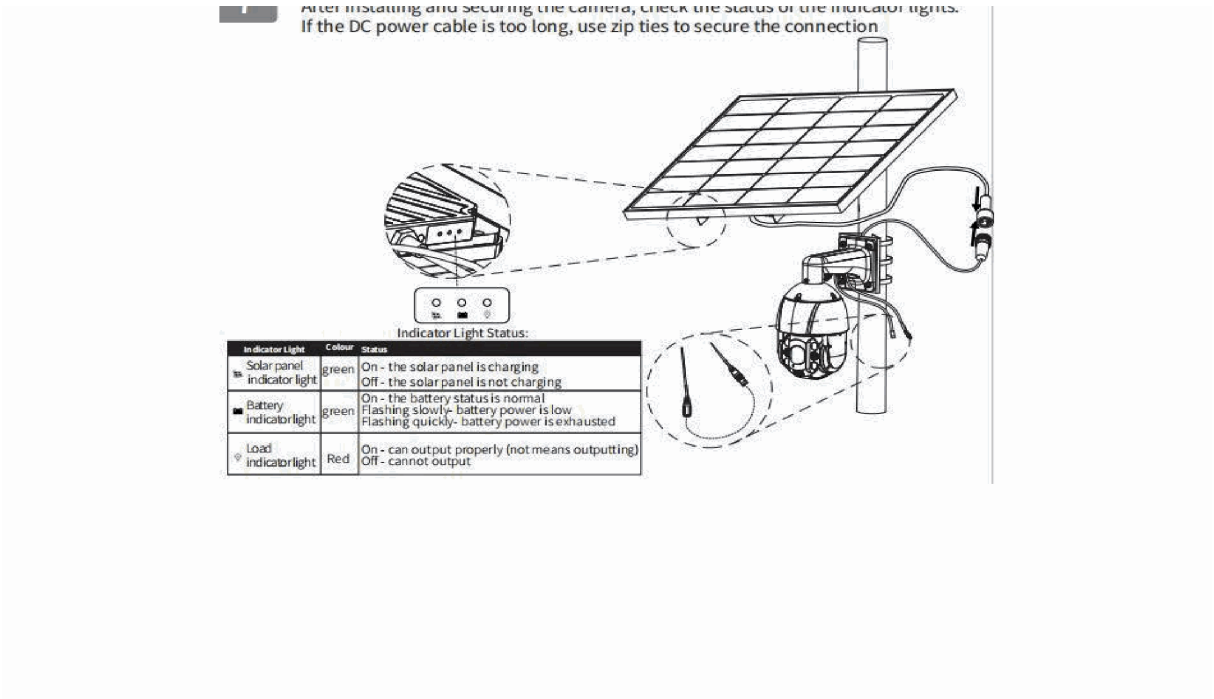
Step 6 :

Installation completed.



Step 7 :

After installing and securing the camera, check the indicator light status. If the DC cable is too long, use zip ties to secure the connection.



2.3 Indicator Status Description

Indicator	Status
Solar panel indicator (green)	ON: Panel voltage > battery voltage. OFF: Panel voltage < battery voltage.
Battery indicator (green)	ON: Normal voltage. SLOW BLINK: Insufficient voltage. FAST BLINK: Protection activated.
Load indicator (red)	ON: Load activated. OFF: Load deactivated.

Appendix 1 – Frequently Asked Questions

Symptom	Meaning	Troubleshooting
Indicators do not light up	Abnormal battery power	Check that the charging plug is properly connected.
Indicators do not light up	Controller in hibernation	Connect the solar panel to charge the battery and activate it.
Battery indicator blinks slowly, monitoring off	Insufficient battery capacity	Check if the solar panel is charging correctly and not obstructed. Check the cable.
Short battery life	Insufficient capacity	Check if the solar panel is charging correctly and if the configuration is correct.
Short battery life	Excessive consumption	Check consumption. If too high, upgrade the solar panel.
Charging only lasts one night	Panels not connected	Check the connection, wiring, and if the panel is covered.
Charging only lasts one night	Panels connected in reverse	Reverse the wiring, observe the indicator blinking.
Panel indicator off during daytime	Malfunction or wiring error	Check the connection and that the panel is not covered.
Battery indicators blink fast, no current	BMS: overcharge protection activated	Wait for the voltage to drop, charging will resume automatically.

Appendix 2 – Hazardous Substances Table

Part name	Pb	Hg	Cd	CrVI	PBB	PBDE
Metal parts	X	O	O	O	O	O
Plastic parts	O	O	O	O	O	O
Optical parts	O	O	O	O	O	O
Electromechanical parts	X	O	O	O	O	O
Printed circuit board	X	O	O	O	O	O
Power cable	X	O	O	O	O	O
Cable	X	O	O	O	O	O
LCD screen	X	O	O	O	O	O
Optical disc	O	O	O	O	O	O
Desiccant	O	O	O	O	O	O
Accessories	X	O	O	O	O	O
Battery	X	O	O	O	O	O

This table is prepared in accordance with SJ/T 11364.

- O: Content below the limit specified in GB/T26572 in all homogeneous materials.
- X: Content exceeding the limit specified in GB/T26572 in at least one homogeneous material.