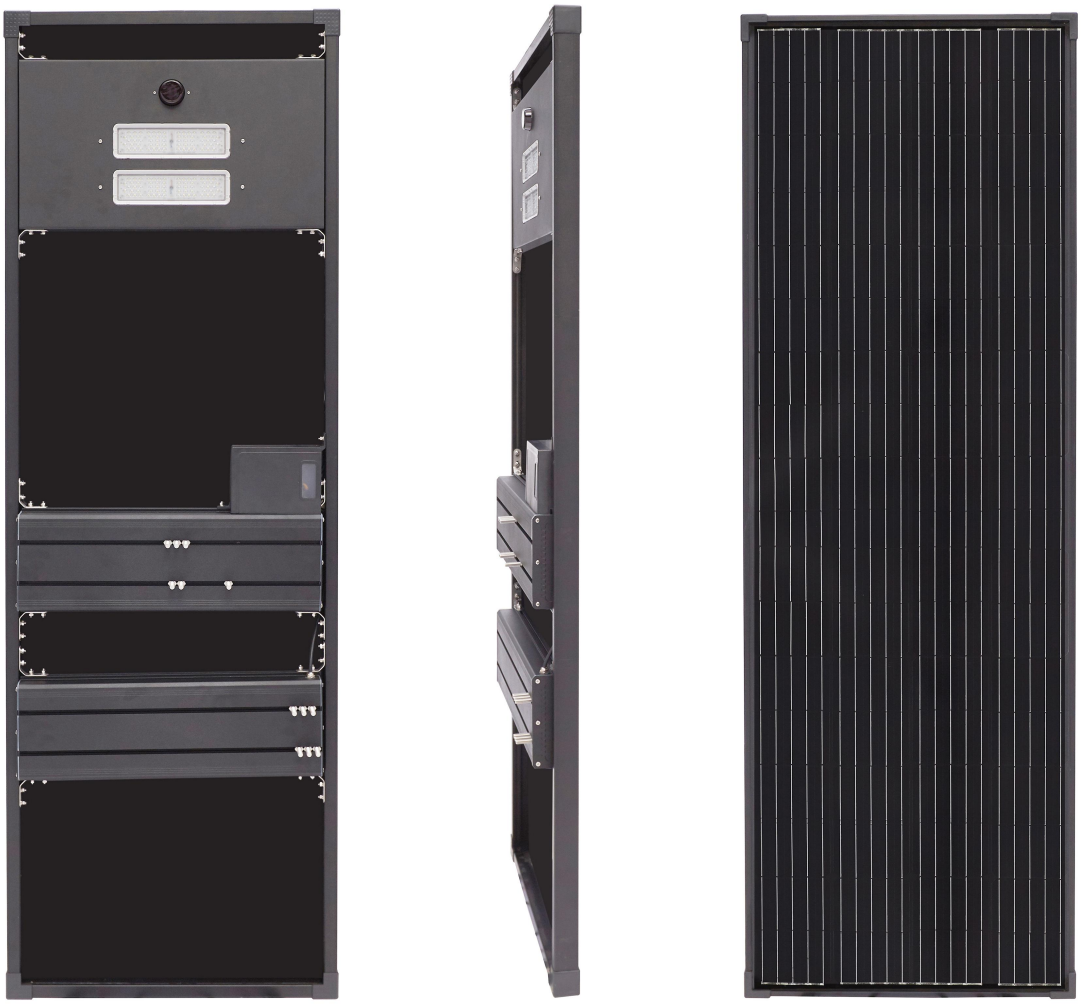
الحلول المتقدمة للطاقة
ADVANCED
ENERGY SOLUTIONS

50W All In One Solar Street Light

Product Design Diagram



Introduction

The AESCO ALL-IN-ONE Solar Street Light is constructed with a high-efficiencymono-crystalline solar PV module, a lithium Ferro phosphate battery with built-in BMS technology, a LUMILEDS LED chip, a smart solar charge controller, and a strong die-cast aluminum body. It is widely used for lighting projects on roads, streets, factories, parking lots, rural mountainous areas, and remote areas.

Product Advantage

The appearance design is patented, integrated, and exquisite.

Replaceable battery and control box.

Microwave induction, intelligent control, and programmable DIM mode brightness.

Strong lamp holding to keep the strong wind at bay.

3 year warranty (5yrs optional).

Product Specification

Model No.	AESSK-50W-XXK-SL
Rated Lamp Wattage	50W
Solar Panel	Mono crystalline 120W/18V
Lithium Battery	LifePO4 48AH/12.8V(614.4WH)
Controller	PWM 15A
Light Distribution	Bat-wing(150°x75°)
LED Chips	PHILIPS LUMILEDS 3030
Single LED Chip Efficiency	≥150 lm/W
Luminous Flux	≥7500 lm
Color Temperature	3000K/4000K/5700K/6500K
CRI	≥Ra70
IP Rate	IP66
IK Rate	IK08
Working Temperature	-10℃~+60℃
LED Lifespan	>50000 hours
Mounting Diameter	Customized
Lamp Weight	24.5Kg
Lamp Dimension	1030×680×90mm
Lamp Packing Dimension	1107×730×217mm(1pc/CTN)
Holder Packing Dimension	To be offered later

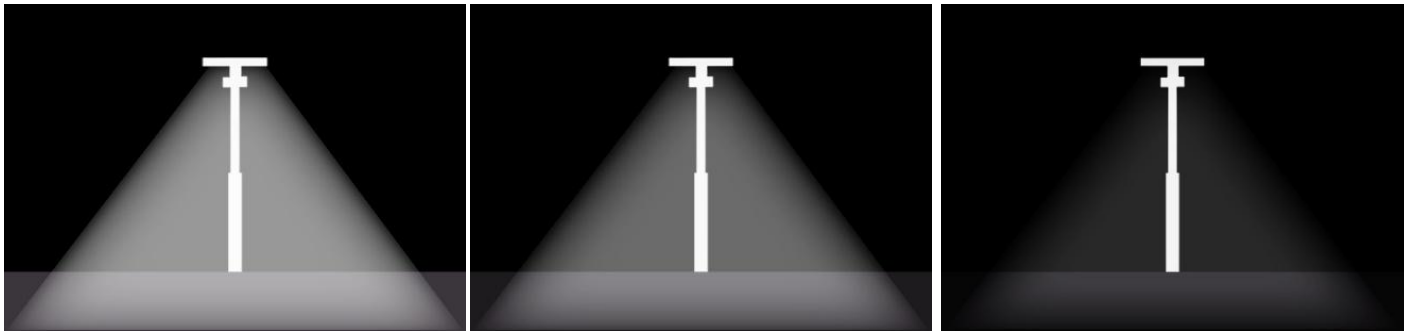
Working Mode

Autonomy Time: 2 days;

Working hours per night: 12 hours with dimming mode(TBD)

Different brightness for working hours:

100%	50%	25%



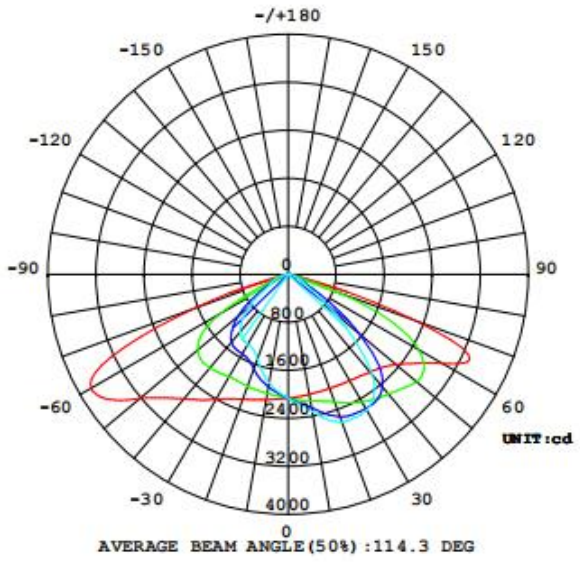
Light Source IES Test Report

STREETLIGHT PHOTOMETRIC TEST REPORT

NAME: -50W	TYPE: TS-8C8B-3030	WEIGHT:
SPEC.: 8C8B-3030	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.21*0.0.05	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA		Eff: 151.33 lm/W	
MODEL		Imax(cd)	4106	□ street_up(%)	0.0
NOMINAL POWER(W)	50	LOR(%)	100.0	□ street_down(%)	59.6
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	7566	□ house_up(%)	0.0
NOMINAL FLUX(lm)	7566.49	MAXIMUM @(C,□)	170,60.0	□ house_down(%)	40.4
LAMPS INSIDE	1	□ up(%)	0.0	76 FLASHAREA(m2)	0.00100
TEST VOLTAGE(V)	47.8	□ down(%)	100.0	SLI	18.164

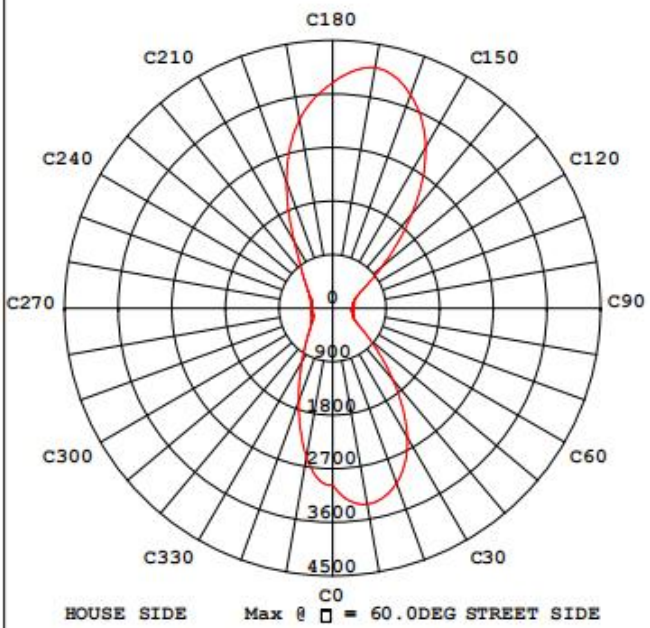
INTENSITY DISTRIBUTION DIAGRAM
IN C PLANS



AVERAGE BEAM ANGLE(50%):114.3 DEG

C0/180 Ic=2059
72.2,73.3
C30/210 Ic=2094
61.6,69.4
C60/240 Ic=2583
45.9,52.2
C90/270 Ic=2636
35.3,47.4

MAX INTENSITY CONE SURFACE
DISTRIBUTION DIAGRAM

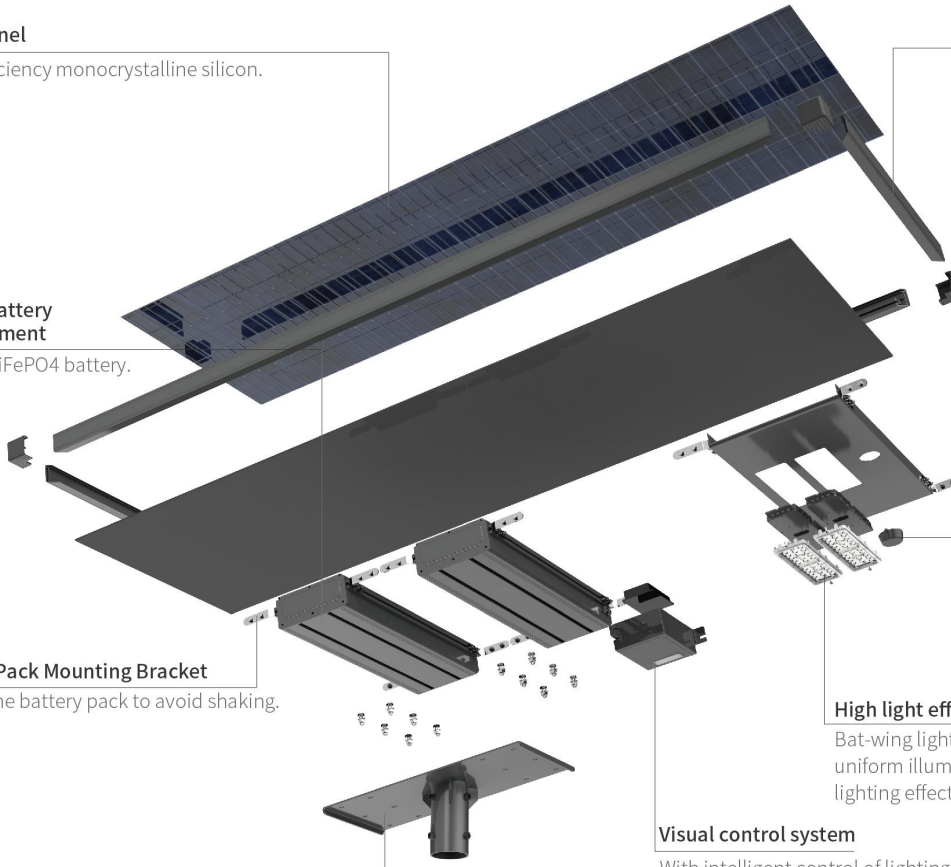


HOUSE SIDE Max @ □ = 60.0DEG STREET SIDE

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:38.1℃
Operators:001
Test Date:2022-08-10

□ Range: 0 - 90DEG
□ Interval: 1.0DEG
Test System:EVERFINE GO-2000 SYSTEM V2.00.460
Humidity:47%
Test Distance:9.400m [K=1.0000]
Remarks:

Lamp Structure Diagram



Solar panel
High-efficiency monocrystalline silicon.

Frame
Standard aluminum profiles.

Battery panel corner guard
Prevent accidental injury from sharp corners of Solar panel during installation.

Profile battery compartment
Built-in LiFePO4 battery.

Microwave Sensor Design
Automatically control the lighting of the light source through the induction module.

Battery Pack Mounting Bracket
Secure the battery pack to avoid shaking.

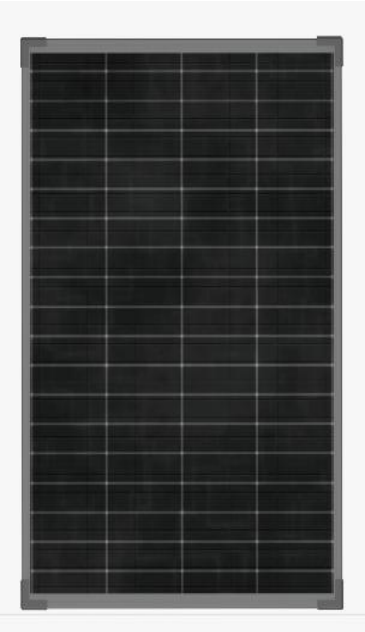
High light efficiency LED module
Bat-wing light distribution, uniform illumination, better road lighting effect.

Visual control system
With intelligent control of lighting time, overcharge, overdischarge, electronic short circuit, overload protection, anti-reverse connection protection and other functions, it can adapt to cold, high temperature, humidity and other environments.

Mounting Bracket
Kit for connecting to light pole.

Effect Design

Solar Panel Technical Parameters



Silicon Type.	Mono crystalline
Pmax	120W
Tolerance	±3%
Vmp	18V
Imp	6.67A
Voc	21.6V
Isc	7.33A
Solar Cell Efficiency	>21%
Conversion Efficiency	>18%
Operating Temperature	-40℃~85℃
Surface Maximum Load	5400Pa
Allowable Hail Load	Ø25mm_23m•s¹
Life Span	More than 10 years
Decay Rate	Power is more than 90% in 10 years and 80% in 25 years
Certifications	CE, RoHS, IEC61215

Aluminum Alloy Frame

Anodized aluminum frame
for high corrosion resistance
Up to 25 years of service life
Improved load resistence
capabilities for heavy wind
loads

Protect Corner

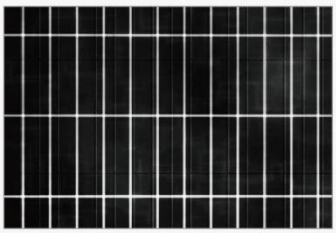
Protect the solar panel frame
during transportation
Does not deform under the action
of external force
Protect the safety of the installer
during the installation process

High Transmission Low Iron Tempered Glass

3.2mm thickness
>91% higher light transmit-
tance
Work normally under 5400Pa
snow load
High mechanical strength

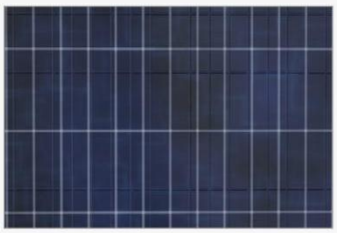
EVA

>91% higher light transmit-
tance
Higher gel content to provide
good encapsulation
And protect cells from vibration
with longer durability



Monocrystalline Silicon Cell

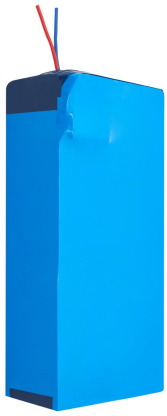
Grade A monocrystalline
silicon cell, neatly welded
High photoelectric conversion
efficiency, efficiency ⩾21%



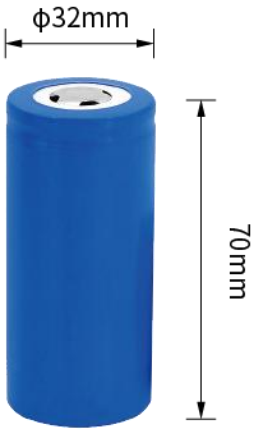
Polycrystalline Silicon Cell

The polycrystalline silicon cell
is welded neatly
Energy saving, environmental
protection, efficiency ⩾19%

LifePO4 Battery Technical Parameters



LifePO4 32700 Cell



The lithium iron phosphate battery has a long service life, with a deep life of more than 2000 cycles. Under the same conditions, the lithium iron phosphate battery can be used for 3 years. The lithium iron phosphate battery has undergone strict safety tests, without high risk of explosion; Phosphate Iron-lithium batteries are green, with a wide range of raw materials and affordable prices.

Battery Cell Type	Deep-Cycle Lithium Iron Phosphate
Nominal Capacity	48AH
Voltage	12.8V
Capacity in WH	614.4WH
Assembly Method	4S8P
Safety System	Built-in BMS
Cycle Life	>2000 cycles@80% DOD

Charging Settings

Standard Charging Voltage(Recommended)	@0.2C to 14.4V
Charging Time	Approx 7 hours
Max. Charging Current@25°C	9.0A(8.0A recommended)
Charging Cut-off Voltage	3.6V/cell(≤14.4V)

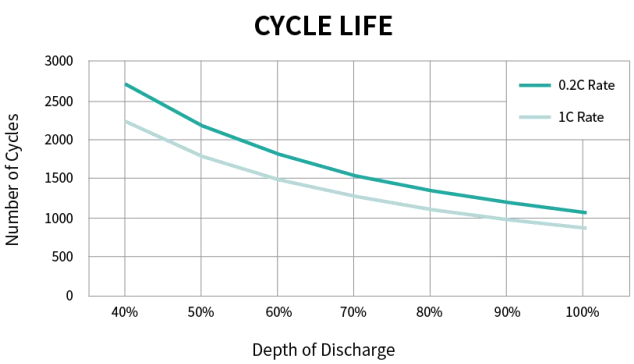
Electrical Features

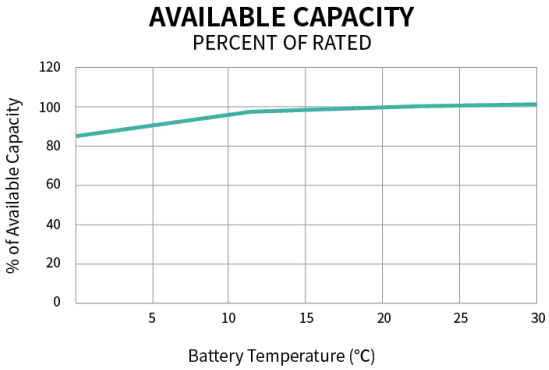
Standard Discharging Voltage(Recommended)	@0.2C to 10.4V
Max. Discharging Current@25°C	9.0A(8.0A recommended)
Discharging Cut-off Voltage	2.6V/cell(≥10.4V)

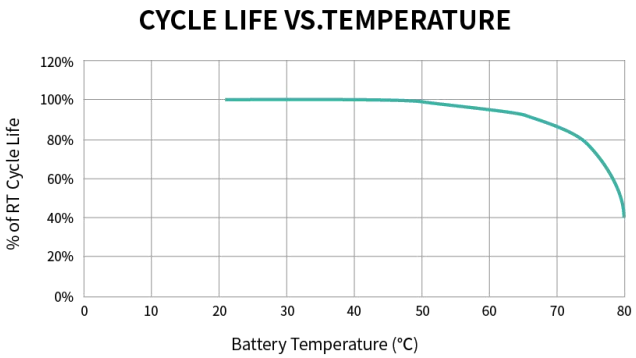
Other Features

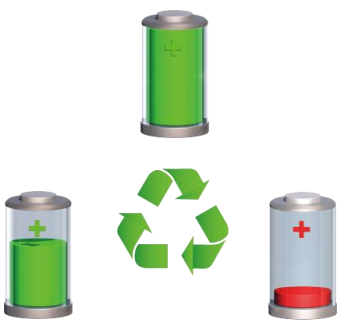
Humidity	60±10R.H.
Operating Temperature	0-60°C
Storage and Charging	Battery may be stored up to 3 months then a freshening charge is required
Self-discharge	At 25°C, the monthly power consumption is less than or equal to 0.9%, which is between 0.5%~0.9%

Rated Curves









Intelligent Wireless Solar Street Light Controller

Features

1.With PWM technology, the controller has higher response speed and tracking efficiency, thus significantly improving the energy utilization efficiency of solar panels.
2.Infrared/microwave human body induction function.
3.Lead-acid battery and lithium battery are available; operating parameters can be set by remote control.
4.Temperature compensation function and multi-stage constant voltage charging for lead-acid battery.
5.Load power and time control.
6.Battery charge and discharge temperature protection and setting.
7.Intelligent power mode: The load power can automatically adjust according to the battery level.
8.High-precision digital step-up voltage and constant current control algorithm: ensure high efficiency and high constant current accuracy.
9.Infrared remote control: allow for parameters setting and status checking.
10.Provide battery/PV reverse electrode protection, LED short-circuit, open-circuit, and limited power protection, etc.
11.With metal outer shell and IP67 waterproof rating, the product can function well in various tough situations.

Technical Parameter

Brand Type	PWM,KH100
No Load Loss	11mA for 12V system 21mA for 24V system
System voltage	12V/24V
Solar Energy Input Voltage	25V/12V 55V/24V
Rated Charging Current	15A
Load Output Voltage	15V~60V
Efficiency	Typical Efficiency 97%
Ambient Temp. Range	-35 °C ~ +65°C
Max. Solar Panel Power	225W/12V 450W/24V
Max Load Power	50W/12V 120W/24V
IP Rate	IP67
Life Span	＞5 years
Working Principle	Light switch-on & time switch-off & Motion Sensor
Energy Saving Mode	9-period Energy Saving Mode available
Remote Control	Wireless remote control IR 15 meters signal range workable through metal cases
Protection Functions	Short-circuit Protection, Reverse Discharging Protection, Polarity Protection, Lightning Protection, Low Voltage load cut-off protection, Over-charge Protection
Certifications	CE, RoHS, IEC61215, UL, TUV

Adjustable Installation sleeve

Material	Q235b Steel
Installation diameter	To be determined with arm top diameter
Adjustable angle	30° Adjustable

Accessories

Fastener fixtures: bolts and nuts

Packing for each component

All-In-1 Lamp / Packed with CTN(1pc/CTN)

Installation&Maintenance

Detailed installation manual and installation video will be available after finalizing the order. Besides, we can provide on site installation training and technical assistance.

Our solar street lights are essentially maintenance free. However, in certain regions with heavy dust, snow or extreme dry weather with little rain, some lever of maintenance is required.

- Every Week: Inspect street lights to ensure all lights are working. If there are unlit lights, analyze the cause and conduct repairs.
- Every 2~6 Months: Inspect and clean solar panels which are covered with dust or sand. The best tool to clean is a brush with a long pole. Cares should be done to avoid damage
- Every 5-10 Years: Replace the solar street light batteries if the voltage drops below normal levels. The battery has an expected life of 5-10 years.

Our Service Commitment

1.We offer a quality assurance certificate, a thorough installation guide, and common issue fixes.
2.We promise that every product is properly inspected, and no subpar products are ever delivered.
3.We adhere strictly to the obligations of the after-sales service, warranty coverage, and application of the national regulation for industrial products.
4.We will freely recall or replace any defective products, but buyers must submit an application outlining the product's design, material, and manufacturing flaws as well as proof that it was installed and used in accordance with our instructions.
5.Since the customer raised a quality objection, we promise to offer a resolution within 48 hours.