

SOLAR STREET LIGHT MANUAL



Green/environmental friendly and energy saving

ZYM-S188

JIANGSU ZIYUM LIGHTING EQUIPMENT CO., LTD

China Solar Lighting

TABLE OF CONTENTS

1. Product Introduction

1.1 Warranty	1
1.2 Product Structure.....	1
1.2.1 Main Components.....	1
1.2.2 Part List (single unit).....	2
1.2.3 Storage and Working environment.....	2
1.2.4 Technical data.....	2

2. Instruction Manual

2.1 Choosing Site.....	3
2.2 Groundwork	3
2.3 Installation of Street Lamp.....	4
2.3.1 Fixing Storage Battery.....	4
2.3.2 Mounting solar panel, Lamp.....	5
2.3.3 Mounting the controller.....	6
2.3.4 Hoisting	7

3. Fault and Treatment

1. Product Introduction

1.1 Warranty:

The products quality issues caused by non-human error or force majeure natural calamity, our company support following warranty:

Storage battery:	3 years (life 6-8 years)
LED Lamp:	3 years (life 50000 hrs)
Solar panel:	5 years (life 25 years)

1.1.1 Exemption clause

A. Do not bear any responsibility towards any damage caused by following reasons: nature disasters, such as earth-quake, flood, thunder, fire and so on; the third party operation, stolen, damage, contretemps or any damage caused by improper operation.

B. Do not bear any responsibility toward any damage cause by operation which is not obeying this usage manual.

C. Do not bear any responsibility toward any damage because of fault cause by using our products combined with other equipment which has nothing to do with our company.

1.2 Product Structure

1.2.1 Main Components



Solar panel



Controller



Lamp-house



Storage battery



1.2.2 Part List (single style listed as sample)

Components	Specification	QTY
Pole	iron、 spray-paint on surface, Height: 7M, Pole thickness:0.375cm	1pcs
Solar Panel	130W polycrystalline, efficiency 15%	2pcs
Storage Battery	12V150AH	2pcs
Controller	12V15AH	1pcs
Lamp	48W, white LED	1pcs
Arm	Length 1.4M	1pcs
Solar panel Bracket	Bracing frame: 1pc T link bracket: 1pc V bracket: 2pcs	4pcs
Groundwork Stand	Dead plate: 1PCS; Iron post: 4PCS	5pcs
Storage Battery Box	Plastic,	1pcs
Other Accessories	Wire fastener	1box

1.2.3 Storage and Working environment**A Srrorage**

- a. Placed in the ventilation and away from dust and dirt area;
- b. Environmental temperature: -20 to 60°C;
- c. Relative moisture less than ninety percent, and without the phenomenon of drip congealed;
- d. Away from erosive gas and liquid;
- e. Long-period of no using, discharge and charge once a month.

B Working environment

- a. Working temperature: -15 to 50°C;
- b. Moisture: should keep it between 0 to 90%;

1.2.4 Technical data

Item No.	ZYS-020
Spec.	48w LED Lamp
LED chip	Epistar Chip; ultra-bright white LED module
Light pole	Q235 steel, HDG and powder coating finished
Operation Voltage	DC 12V
Total Luminous	4800Lm
Illumination intensity	20lux
Operation Temperature	-15°C~50°C
IP Class	IP65
Material	Heat radiation part: die cast aluminum/anti-corrosion Lamp cover: high impact & anti- ultraviolet resin

2. Instruction Manual

2.1 Choosing Site:

- A. Choose a site with sufficient sunshine during the day.
- B. The solar street lamp must be installed in the site with best sunshine and without tree shade or building shade.
- C. It must have wonderful sunshine during 9:30am to 15:30pm.
- D. It should keep distance from hot source, or its life will be shortened.
- E. The solar panel should not be irradiated by other lighting in the evening, or it will not work because of receiving the wrong order.
- F. There should have no other establishment (cable or conduit) underground the solar street lamp.

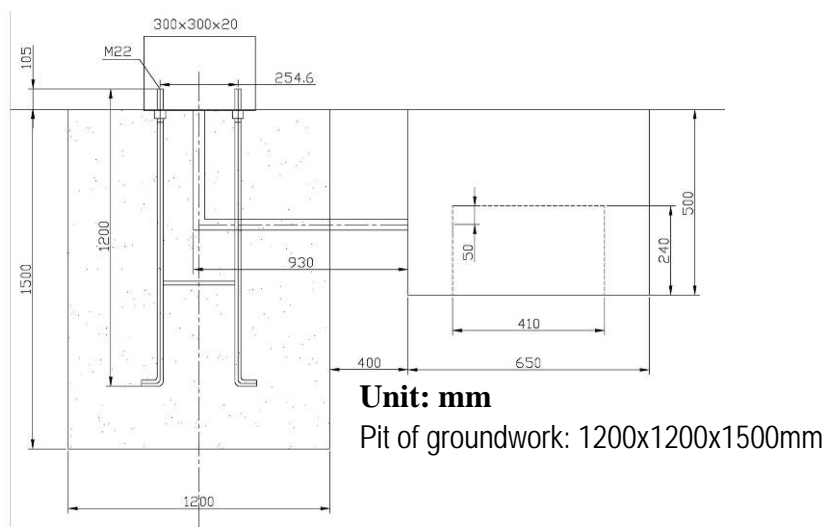
2.2 Groundwork Manufacture

A. Fixing the anchor bolts

Pass the four iron posts through the eyelet on the dead plate; keep the screw side of the iron post up; fasten the four screw caps; place the top dead plate finally. As following illustration:



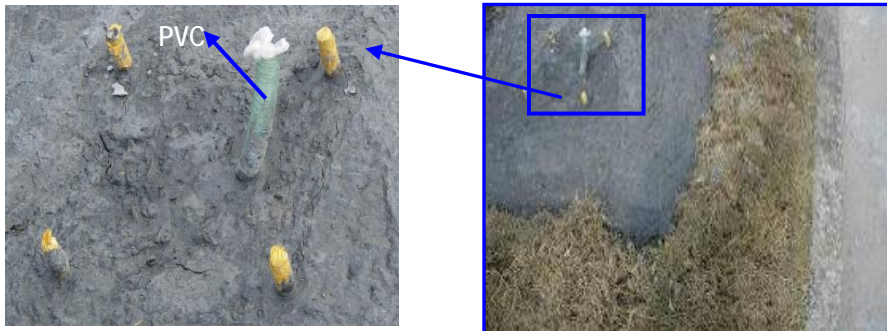
B. Digging the Groundwork Pit



C. Cleaning and Conservation

- a. Sealed both ends of PVC pipe in order to prevent debris or water into it. Clean the bolt with oil and clean the site.

- b. Solidification process of concrete, it is necessary to regularly watering; after it is fully solidified (about 2 weeks), then install the street lamp.

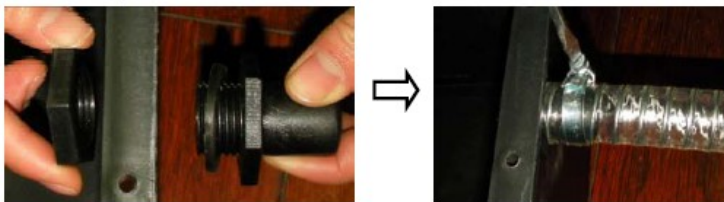


2.3 Installation of Street Lamp

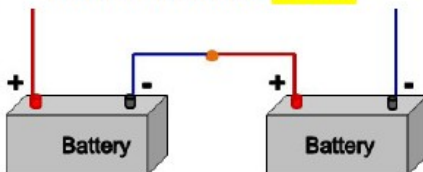
Check each component before installation: specifications, models, quantity and the appearance of the each component. It should be immediately transferred if there have discrepancy, but do not reluctantly construction.

2.3.1 Fixing Storage Battery

- ①. Assemble the connector of the battery box as per the following picture. Do not screw the connector too hard



- ②. Place the battery into the battery box.
 ③. Connect two batteries **in series**.



- ④. Wrap both the "+" and "-" wires of battery with insulation tape to avoid short circuit.
 ⑤. Pass the cable of the battery through the wire reinforced hose.
 ⑥. Cover the battery box, add the sealing ring and seal it tightly with fasteners.
 ⑦. Bury the battery box in the battery pit and pass the wire reinforced conduct through the PVC pipe (Refer to the Foundation Drawing).
 ⑧. Fill some sands around the battery box ensure there is a proper operating temperature for battery in winter.



Pass wires through the connector

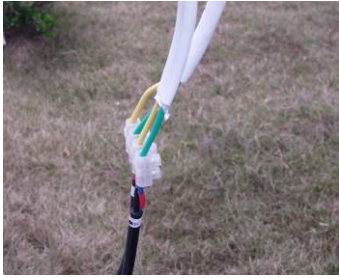
Add sealing ring

Seal the box

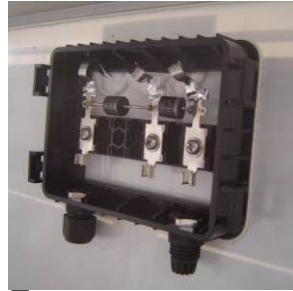
Remark:

- ✧ The conjunction between storage batteries must use bolt press in the battery terminal and adopt copper gasket to strengthen electrical conductivity
- ✧ The connect wire must be pulled through PVC pipe;
- ✧ The connection between PVC pipe and the waterproof plastic box must be sealed;

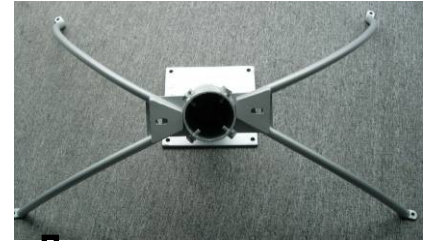
2.3.2 Mounting lamp, solar panel



Connect the LED lamp and the controller, put the connect wire into pole through the arm



Open the junction box of solar panel.



Fixed the V frame and T frame



Install the lamp to the arm and screw tightly



Insert the cable to the junction box, pay attention of the positive and negative poles "+" "-", then Fixed the cables.



Fixed the solar panel on the frame



Install the arm to the pole and screw tightly



Close the box.



Fixed the two frames tightly



Connect the solar panel and the controller, and put the wire into the pole through the T frame, and fixed the T frame to the pole tightly, and finish installation..

2.3.3 Mounting the controller

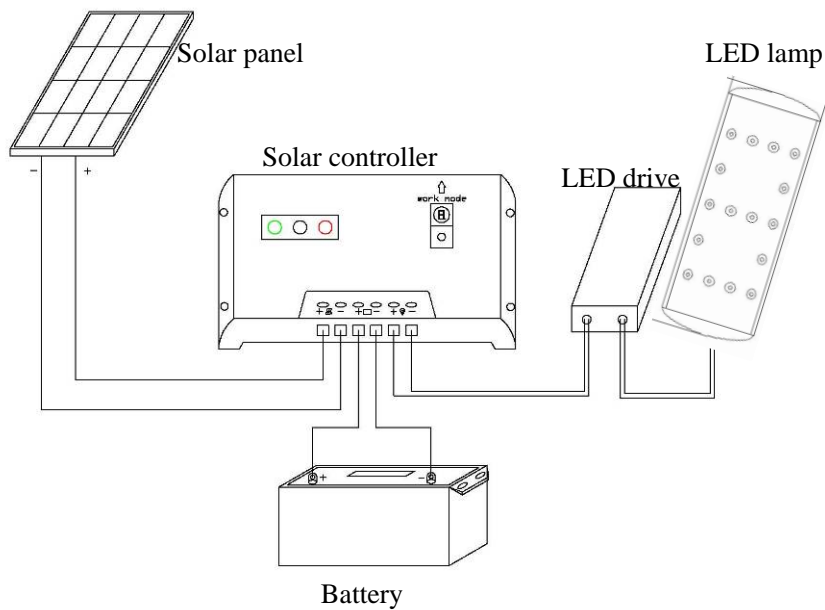


Open the door set the controller inside



Use hex key to Firm it by screws

Connect solar panel, lamp, battery and controller as the map shows, and then test the system.



2.3.4 Hoisting



Lifting the pole with crane and put it on the underground work.



Screw down two nuts on each bolt.

Remark

- ✧ The installation and maintenance must be carried out by corresponding qualified technical staff
- ✧ Please do not use other components to do maintenance but without the proposal of its original manufacture. Or the system might be damaged or in danger.
- ✧ all components of solar street lamp should not be damaged in the installation process;
- ✧ battery should not be inverted or placed in the humid or under sunlight directly in the transport and installation process;
- ✧ not short-circuit the wiring connections (the cathode touch the anode)
- ✧ Connecting order: Storage battery— LED Lamp—Solar panel;
- ✧ cutting order: solar panel—LED Lamp —storage battery;
- ✧ Solar panel must faces to direct north (south), it is better to use compass to assure the direction.
- ✧ All bolts and connect terminal must be tighten but not loosen, connection must be reliable; please notice each components, storage battery, controller, drive and so on, must not be connected anti-electrode;
- ✧ Please notice the wire should not clip in the conjunction of the pole while pulling the wire. The wire conjunction must link firm and tie up with PVC tape;
- ✧ The surround of storage battery box must be filled with thin sand around to promise the storage battery has a good operate temperature in winter;
- ✧ Strictly forbid to smoke cigarette or light fire while opening the access door to do maintenance, because the storage battery will exhaust hydrogen during working time, it will cause explosion when hydrogen meets fire;
- ✧ Because each lighting system is a independence work unit, it is normal with little difference in performance when switch on and off;
- ✧ Please clean the dust on solar module every half year, but, do not use water to flush it from top to bottom.

3. Fault and Treatments

Fault Phenomena	Possible Reason	Treatment
Light source not light-up	environmental light is brighter	the light source will light-up when the brightness of environmental light below a certain illumination
	light source is dead	Replace the same model light source
	output circuit is open circuit, short circuit or earth connection	Check the output circuit connection is correct or not
	the storage battery is open circuit	Check the connection of the battery is correct or not
	fuse is burnt out	Replace the same model new fuse
	The voltage of the storage battery is below 11.1V	1. The days of overcast and raining day is longer than the design time, it can recover automatically in sunny day. 2. the battery is short of voltage caused by the open circuit or short circuit of the solar panel 3. voltage shortage or damage cause by short circuit of the battery
	Something wrong with controller	Maintain or replace the same model new controller
Light-up inaptly	Something covered the solar panel	Clean the solar panel

THE END