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Solar Street Light

40W -6 Meter



User & Installation Manual

Solar Street Lights

WARNING: ONLY TO BE INSTALLED BY CERTIFIED AND QUALIFIED ELECTRICAL ENGINEERS

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Rev 1.2



1. Introduction

Shireen Inc., USA offers a full range of Solar street lights with LED bulbs from its Alternative Energy, and Green Energy line of products. Our LED lights, that are used in the street light fixtures, offer bright light while using minimal power. With 40Watt of power it emits 4000 lumens of light. The 130Watt of solar panel guaranty 8hr of uninterrupted power every night. The large battery bank assures power for three consecutive rainy days when no power is produced. The 6 meter height is ideal for city/town use.

It's a highly efficient system that requires very low maintenance, besides, offering a very long life. The light turns on automatically every night, according to preprogrammed schedule. No user interaction is needed.

This Solar Street light saves money for public and private entities and helps improve environment.

Installation

1. Concrete Foundation

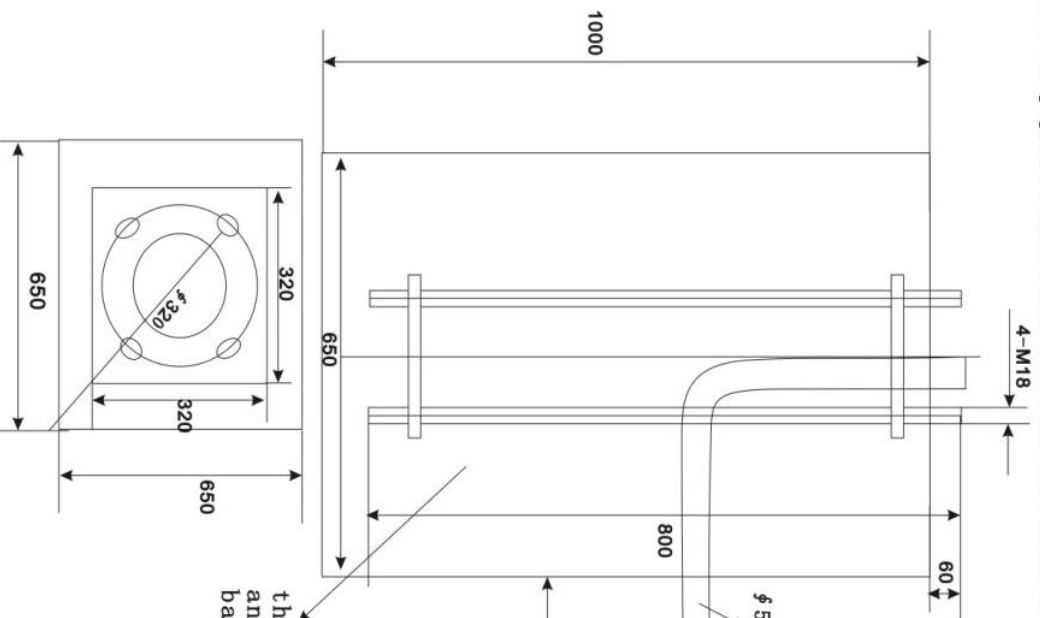
1.1 The first step is to choose an appropriate installation site, keeping in mind that there are no electric wires or water pipes running underground. It should also be noted that trees near the installation site can cast a shadow on the solar panel and can reduce the output power. Top portion of the street light should be completely free for direct access to sunlight.

1.2 As shown in diagram below, a one cubic meter hole is required for the installation of the street light. Begin pouring concrete in the hole and embed the bottom portion of the pole in the center. Place one end of PVC pipe in the center of the pole base, and the other end at the installation position of storage battery (as shown in the diagram below). Make sure the top of the embedded part, the concrete foundation and the original ground are leveled with each other (or depending on the site requirements, keep the top portion of the bolts and original ground at the same level). One edge of the foundation should be parallel to the street in order to keep the light pole stand straight. Then secure it in place using C20 concrete. VERY IMPORTANT: During the pouring process, operator should use vibrator continuously to assure the compactness of the base.

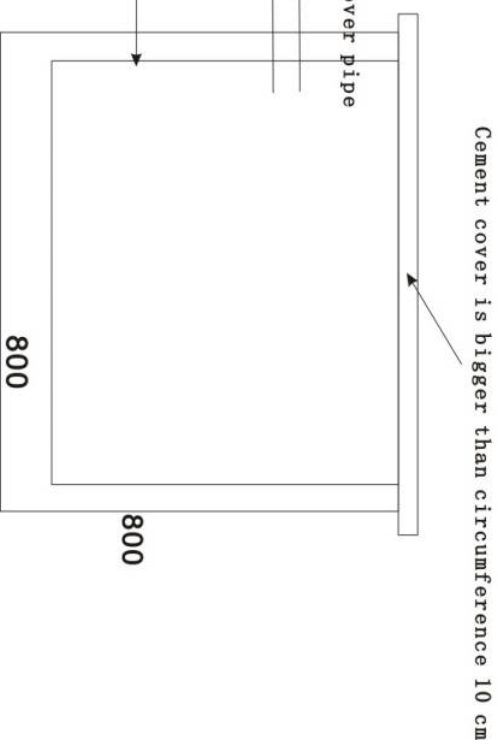
1.3 Water should be poured on concrete regularly during its solidification process. Proceed with the installation after the concrete solidifies completely (generally takes more than 7 days).



The lamp pole base measure. 650*650*1000mm



Dig hole size of Battery base: 800*800*800mm



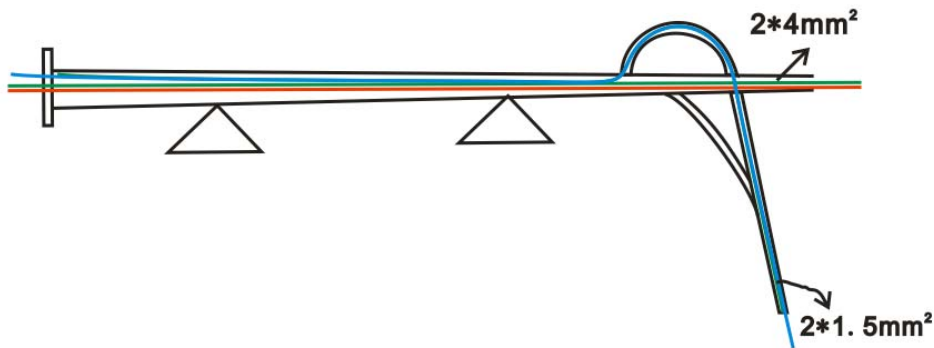
In the around of holes be smeared smooth by 12PCS wall-brick and Concrete.
the Infrastructure with cement poured and the formation of solid after the battery put into the base cages.



2. Thread Cable

2.1 Insert a 1.5 mm^2 twisted wire into the opening of the light arm, then into the light pole through the hole at the top of pole. Continue until the wire reaches the bottom of the light pole. One end of the twisted wire should connect to the storage battery, and the other end should connect to the controller. Afterwards, attach/bolt the arm onto the light pole according to the specific position requirements.

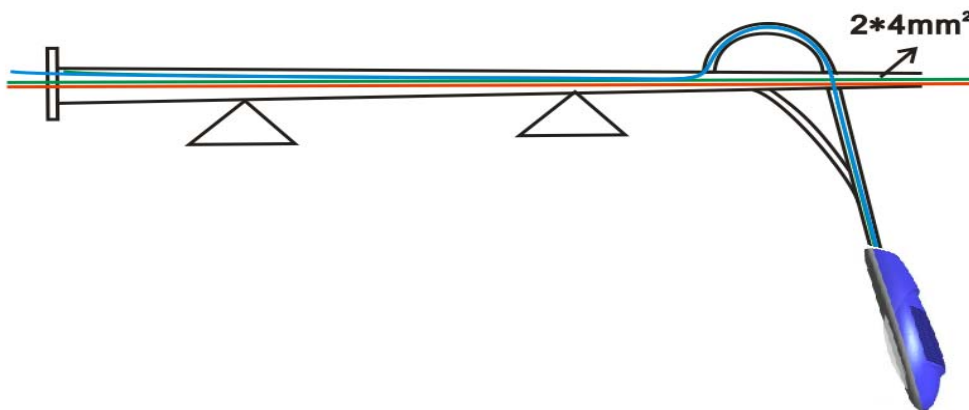
2.2 Insert two 4.0 mm^2 copper cores through the bottom of the light pole (red one connects to the positive terminal, blue one connects to the negative terminal), and bring them out from the top of the light pole. Connect one end of the core to solar module, and the other end to the controller.



3. Install Luminaire (light fixture)

3.1 Connect twisted wire to the input lines of luminaire (Red is positive terminal)

3.2 Secure luminaire onto the arm using screws



4. Install Solar Panel

4.1 Connect the Panel support to the loop with bolts, and then connect the solar panel onto the support. Take the necessary measures for avoiding short circuit before connecting output terminals of solar panel to controller.

4.2 Connect the output lines of solar panel to the copper cores that were threaded out from the light pole (N.B. red should connect to the positive terminal)

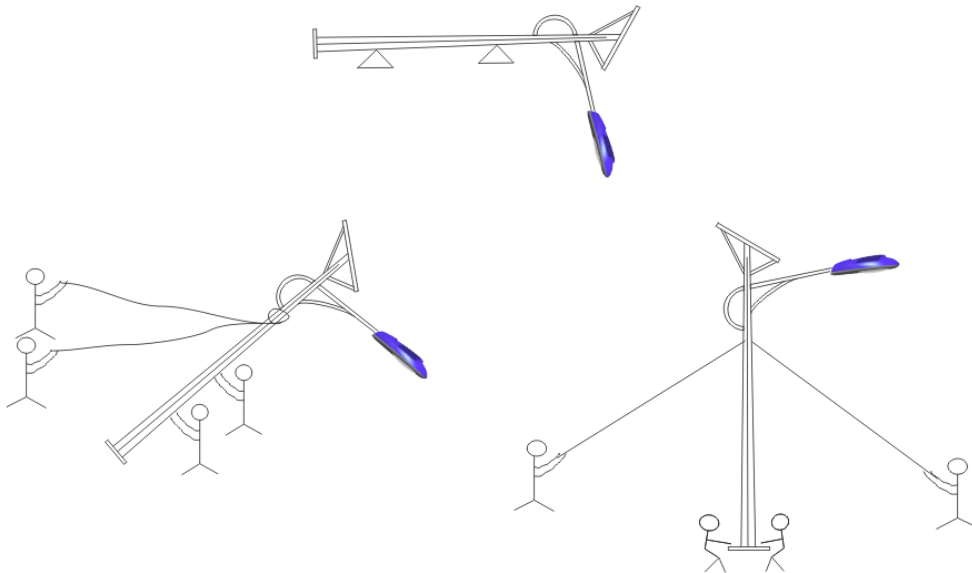
4.3 Connect the solar panel support onto the light pole; all modules should face south (refer to compass).

5. Setup Light Pole

5.1 Before lifting the light pole, make sure that each part is securely fastened. Check the installation of light holder and the luminaire that they are functioning properly. Perform small tests to make sure that the modules are also functioning properly (disconnect wires of solar module in the controller, lights should turn on; connect the wires of solar module in the controller, light should turn off. Meanwhile, examine the changes of indicator lights on the controller carefully. Start lifting and installing after examination.

5.2 As shown in the picture, pull the light pole using manpower or crane, thread all cables out from the bottom of light pole, and then fix the pole onto the embedded part (base of the pole).

5.3 During the process of lifting, pay attention to safety. Make sure the screws/bolts are tightened properly, the angle of module should be precise, use compass to make sure the module face south.



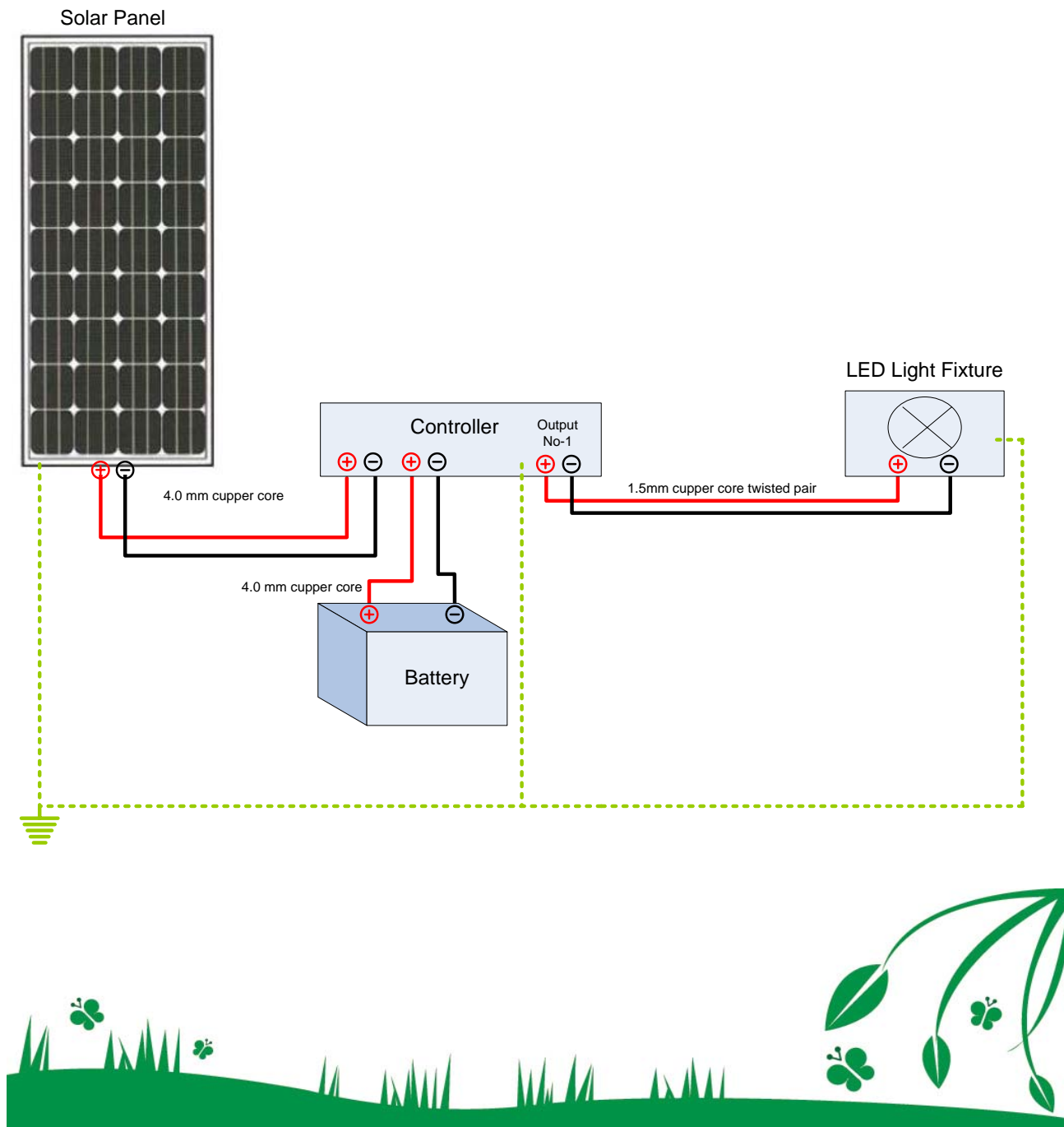
6. Install Storage Battery

Connect lines to the positive and negative poles of storage battery, and then thread those lines through PVC pipe to the light pole. After that, put the storage battery in the box underground, cover it with cement plate, or fill it with soil and then smooth the surface or cover it with concrete slab.

Preventive measures: On the top of the concrete slab, cover the surface with bricks. Then fix it with plug bolt, and weld the nut shut.

7. Install Controller

Connect the wires to the controller according to the drawing below. First connect the storage battery, then connect loads, finally connect solar panel. Pay special attention when connecting the wires of controller and other circuits. Do not connect negative wire to positive, doing so can cause damage to the controller.



8. Testing

Test the system to see if all of the modules are functioning properly: Disconnect the wires of solar module in the controller, lights should turn on; connect the wires, light should turn off. Meanwhile, examine the changes of indicator lights on the controller carefully and after that seal the controller box.

Notes:

During installation keep the following things in mind:

1. The energy source of "solar street lights" is sun light, make sure the PV modules are exposed to the sun light at all times and there is no shade causing trees or tall building nearby.

2. When threading, make sure the wires do not get caught in the joint of light pole. Joints of the wires should be covered with PVC tape.



3. In order to maintain the appearance and performance of the solar panels, clean the dust on the solar modules every 6 months, but do not wash it from top to bottom with water.

Specifications:

Material:	Steel lamp standard hot-dip galvanized, poly fat powder surface. High-pressure cast aluminum lamp cap, internal reflection and toughened glass.
Protection Degree:	IP54
Solar Panels	130Watt Monocrystalline (polysilicon)
Light Source	40Watt Bright LED
Flux	> 4000 LM
Color Temperature	4200k ~ 5600k
Battery	100Ah maintenance free lead acid
Controller	15A LED solar power special controller
Working voltage	12 V
Operating temp	-40 ~ +50 ° C
Working time	8 hrs per day
Autonomy	3 days of no charge (rainy /cloudy days)
Height	6 Meter



Complete Kit Contents

Item #	Component	Specification	PCS/Set
1	Solar Panel	130Watt	1
2	LED lamp	40W	1
3	Storage battery	100Ah	1
4	Controller	15A ,12V	1
5	Lamp pole	6M	1
6	Arm		1
7	Solar panel support		1
8	Solar panel Bracket		1
9	Screw, nut, flat washer	φ8*20	8
10	Screw, nut, flat washer	φ12*30	4
11	1*4m ² flexible wire, (red and green ones in one set)	9M	2
12	2*1.5 m ² flexible wire	7M	1
13	Underground plastic box for battery		1
14	Underground metal support		1

Contact us if you have any questions about the product.

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Local Distributor:



Product Warranty

Shireen Inc values the trust customers place in the company and its products and wants to keep the experience with Shireen's products satisfactory and rewarding one.

Shireen's all Solar power products come with limited warranty.

All solar PV panels are warranted:

1. Atleast 90% of power output during first 10 years
2. Atleast 84% of power output during first 20 years
3. Atleast 80% of power output during first 25 years.

The warranty on Solar controllers, batteries, pumps and other devices varies from product to product. Please contact your sales office for details of warranty on any specify product.

Warranty Exclusions

If, in Shireen's sole judgment, a solar system has been subject to misuse, neglect or accident or has been damaged through abuse, alteration, failure to follow Shireen's operation or maintenance instructions, or repaired by anyone other than Shireen and its authorized dealers/installers, this warranty will not be applicable. This warranty will also not cover damage due to acts of God, power failures, lightning, fire, flood, severe weather, hailstorms, insect and pest infestation, and other events reasonably beyond Shireen's control. Warranty coverage does not include any transportation costs for return of components or for reshipment of any repaired or replaced components.

