

Troubleshooting

No.	Symptoms	Troubleshooting steps	Process
1	No light at night	Check that the lamp can be manually activated.	Refer to "Product Activation" in this user manual and follow the steps to activate the lamp.
		Check if the solar panel is blocked from the sunlight by houses, trees and other obstacles.	Clear obstructions or change installation location.
		Check if there is any artificial light source(s) shining on the solar panel during the night.	Remove the artificial light source(s) of interference or change the installation location.
		Test each component according to the maintenance guide.	Replace the damaged component(s).
2	A serious shortage of working time	Check if the solar panel is blocked from the sunlight by houses, trees and other obstacles.	Clear obstructions or change installation location.
		Check if the surface of the solar panel is dusty or covered.	Clean the surface of solar panel as detailed above.
		Examine if the battery pack is damaged as per the maintenance guide.	Replace the damaged battery.
3	The lamp does not run as per the normal operating mode.	Check if the working mode setting is correct.	Contact the dealer/supplier
4	The lamp fails to change its brightness properly when humans approach and motion sensor triggered.	Check if the air temperature is close to human body temperature.	When the air temperature is close to human temperature, motion detection may slow down. It will return to normal after the air temperature changes.
		Check if the installation is too high.	It is out of motion detection range when installation height exceeds 8m. It is recommended to reduce the height or use other operating modes.
		Examine if the sensor is damaged.	Replace damaged motion sensor or controllers.

LEADSUN®

"Bright Ideas For An Even Brighter Future."



User Manual

AE2 Solar Street Light

Thank you for choosing LEADSUN's solar street light.

If you have any question, please consult our customer services sales@leadsunglobal.com.

LEADSUN reserves the right to update product appearance, function and construction without notice.

For any discrepancies in illustration or description, please refer to individual/real objects.

LEADSUN assures the accuracy and reliability of this manual, but is not responsible for any loss or damage related to any operation of the products.

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Cautions

Please read the below cautions carefully before using the AE series solar street light to avoid physical injury and product failure caused by improper use.



Attention to the electric shock

- To avoid electric shock, street light with AC adapter must be installed by qualified electricians and constructors.
- The street light with AC adapter is custom product. Please confirm its AC adapter is in accord with the local electric supply standard.
- Make sure the electric supply power is cut off during the installation and implement waterproof and insulation protection.



Working condition

- Product protection grade IP65.
- High tensile structure design can withstand level 3 typhoon (58m/s). The street light might be damaged when wind speed beyond this level.
- Working temperature range from -20°C to 60°C (charging temperature is limited within 0°C to 60°C). The product with battery heating function can work from -40°C to 60°C.
- All AE2 part modules are IP65 waterproof. Vents and slits on the product are designed for heat dissipation and drainage. Metal parts are made of anodized rustproof aluminum, which can withstand high temperature and humid weather. However, it is recommended to avoid installing the street light in areas with heavy acid mist or salt influx. The strong structural design can withstand wind speed up to 180km/hr.



Transportation and storage

- The product contains high capacity lithium-ion battery components, please follow the aviation transport law. Please regard the product as the flammable and explosive hazardous substance and store it separately from other goods.
- Tier limit for fragile solar panel of the product is two layers. Stacking out of limits and press with heavy stuff are not allowed.
- Store the product within temperature from 0°C to 45°C
- The product should be charged every six months if it is stored indoor for long time. Please charge the product with specialized charger (The charger is sold separately) in order to avoid battery or device damage.



Product maintenance

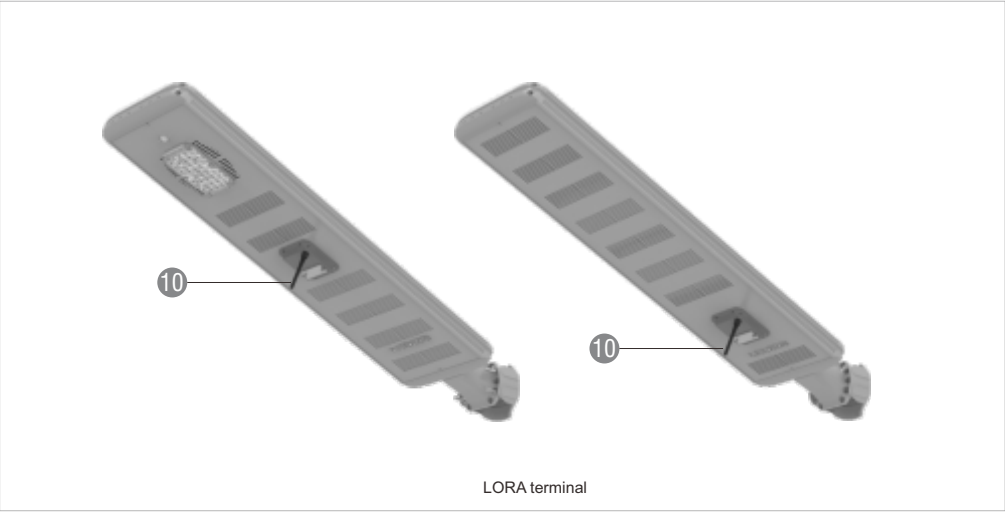
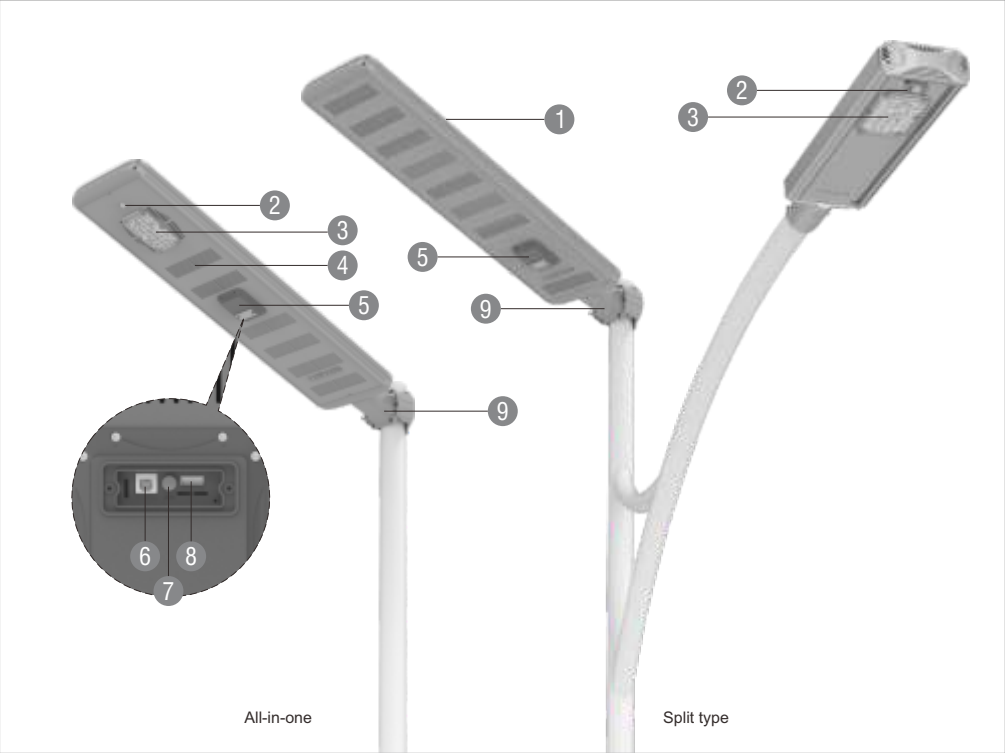
- In order to assure that the solar panel receive the light efficiently, please use clear water to clean the stains on the surface of the panel regularly and prohibit the use of chemical or abradant which includes chlorobenzene.
- Only manufacturer, service agent or qualified personnel can replace the light source or other circuit components of the lighting device. Without authorization, using the third party component to replace is prohibited. It might cause serious damage to the product. If the user disassembles the product without authorization, warranty becomes void.
- If you need to replace the components / accessories, please go to www.leadsunglobal.com, or contact the local distributor.



Product recycling

- The product is made of recyclable high-performance materials and components, please don't dispose it along with other household garbage.
- Please understand the local rules about the separate collection of electronics and electrical products. Dispose the waste products in the right way to avoid potential negative effects to environment and human health.

Part Description



This Part List includes function description for each part. Users can look up the corresponding function based on their purchased product.

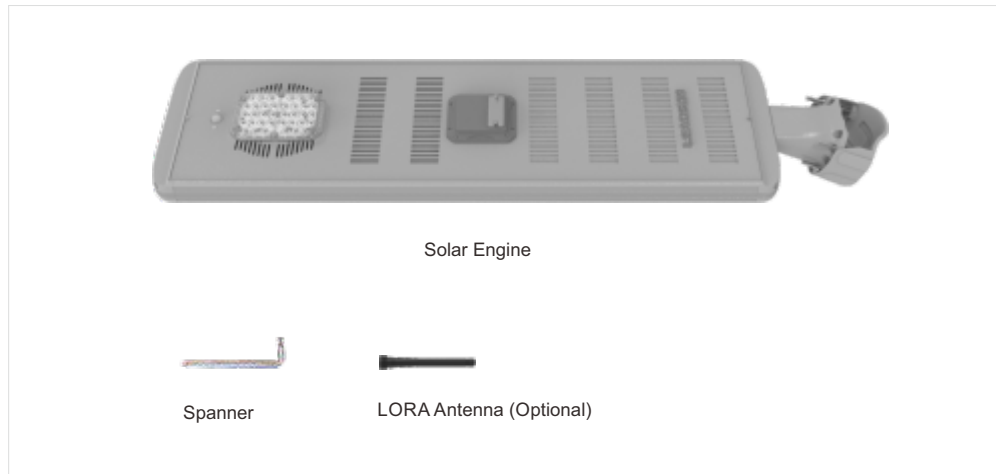
No.	Name	Brief Function
1	Solar module	To absorb solar energy and convert into electricity
2	PIR sensor	Motion detection
3	LED module	Illumination
4	Heat-sink hole	Heat dissipation
5	Controller	Charging and discharging control
6	Type B USB female connector	For program input
7	Switch button	System ON/OFF or LED ON/OFF
8	Type A USB female connector	For battery charging via 14VDC 1.5A power supply
9	Anti-thief Bracket	Mount solar engine and luminaire on the pole
10	LORA Antenna	Network group communication

Part List

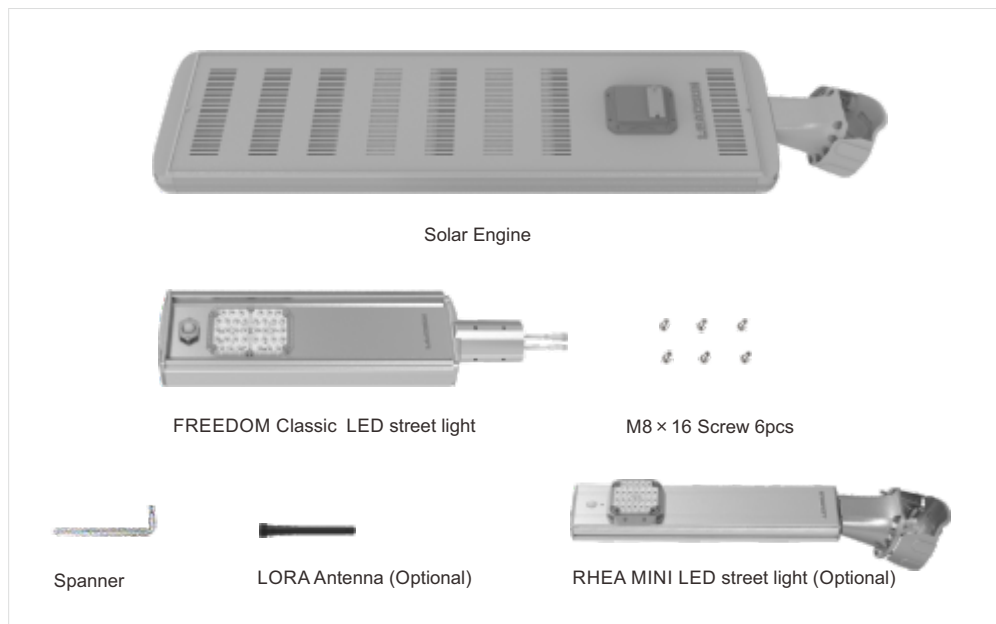


Check if you have all the components listed below before installation, the components and quantity of each set as follows:

All-in-one



Split type



Product Activation

- * Daytime: While connecting the luminaire to solar engine and solar panel exposing to sunlight, the luminaire lights for 20 seconds and then off. That means the AE2 has been activated automatically.
- * Nighttime: Press the controller button and hold for 5 seconds, the luminaire is on. Short press the button, it will be switching between ON and OFF.

*** Tips:

ON mode: the system works normally, charging in the daytime and discharging at night.

Transport (idle) mode: the system will power off in an hour and then switch to OFF mode, for transport packing or maintenance status.

OFF mode: The system doesn't work, no charging or discharging.

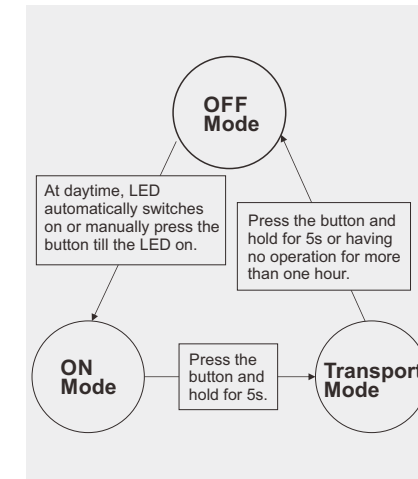
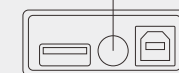
Turn ON the light:

- Connect the luminaire to solar engine in daytime, it will be activated automatically (lights 20s and then OFF).
- Press the controller button and hold for 5s to turn on the light when it is OFF.

Turn OFF the light:

Press the controller button and hold for 5s when it is ON, the light comes into TRANSPORT MODE. Press the button and hold for 5s again or have no operation in one hour, the light turns off.

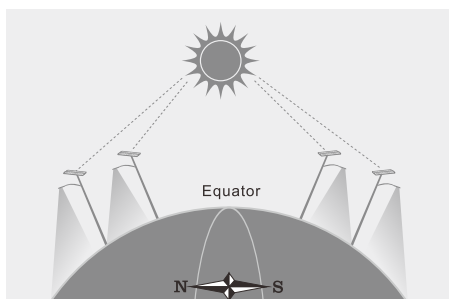
Switch Button



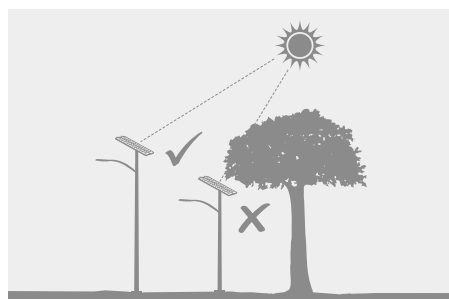
Before Installation

1. Installation Direction of Solar Panel

- 1 Please choose the appropriate model depending on the sunlight intensity of the place and required working time.
If the installation site is on the northern hemisphere, the solar panel should face to the south as far as possible and if it is on the southern hemisphere, the panel should face to the north as much as possible. (See Picture 1)
- 2 Make sure the sunlight is not blocked by any construction or trees during the installation. Otherwise it will affect the charging and discharging efficiency of solar engine and the operation of the street light. (See Picture 2)



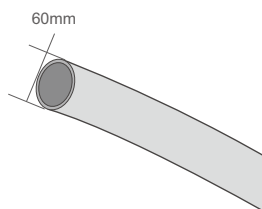
Picture 1



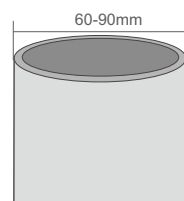
Picture 2

2. How users choose the right lamp pole?

It is suggested to choose the cantilever lamp pole for the solar street light and the diameter of cantilever should be not wider than 60mm. The top diameter of the pole which is used to install the solar engine should be no more than 60-90mm.



Cantilever



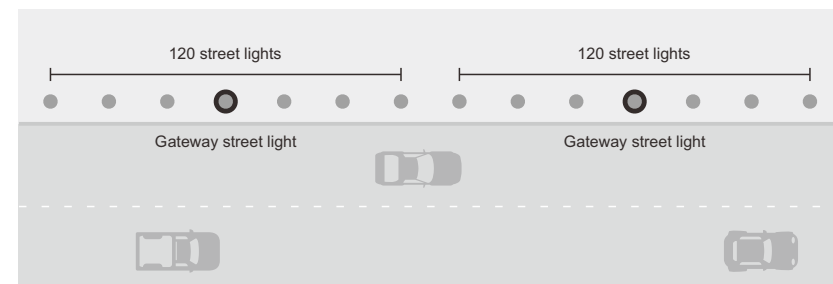
Top of the light pole

3. How users place the Gateway?

Each Gateway covers a range from 800m to 3000m, depending on if there are barriers to block signal transmission. One Gateway can control 120 slave units.

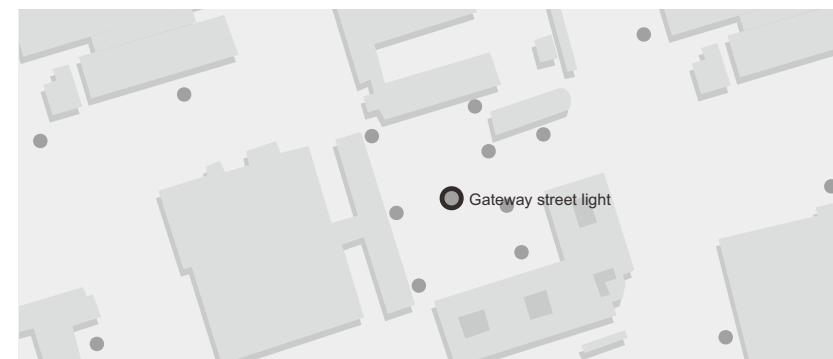
1 Road installation

Build lighting group of wireless solar street light along the road. All lamps must be divided into one or several groups. Each group contains a Gateway and max 120 slave units. The Gateway should be in the middle of the group.



2 Village/Factory/Park installation:

For installation in village/factory/park area, the Gateway is recommended to be placed in the center of the area.



Product Installation

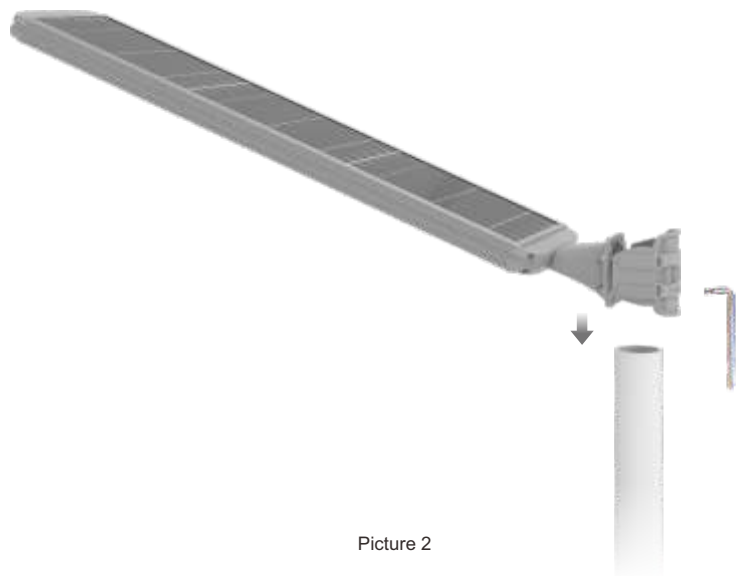
ALL IN ONE

1. Lamp Pole Opening:

- 1 Determine the pole's position according to the max radiation and road condition. Confirm installation height and distance by referring to AE2 specifications. LEADSUN recommends using a steel pole with a diameter of 60-90mm and a thickness of more than 2mm. (See Picture 1).
- 2 Mount the unit on the pole by fastening the M8 bolts. The torque wrench is 14N.m (See Picture 2).



Picture 1

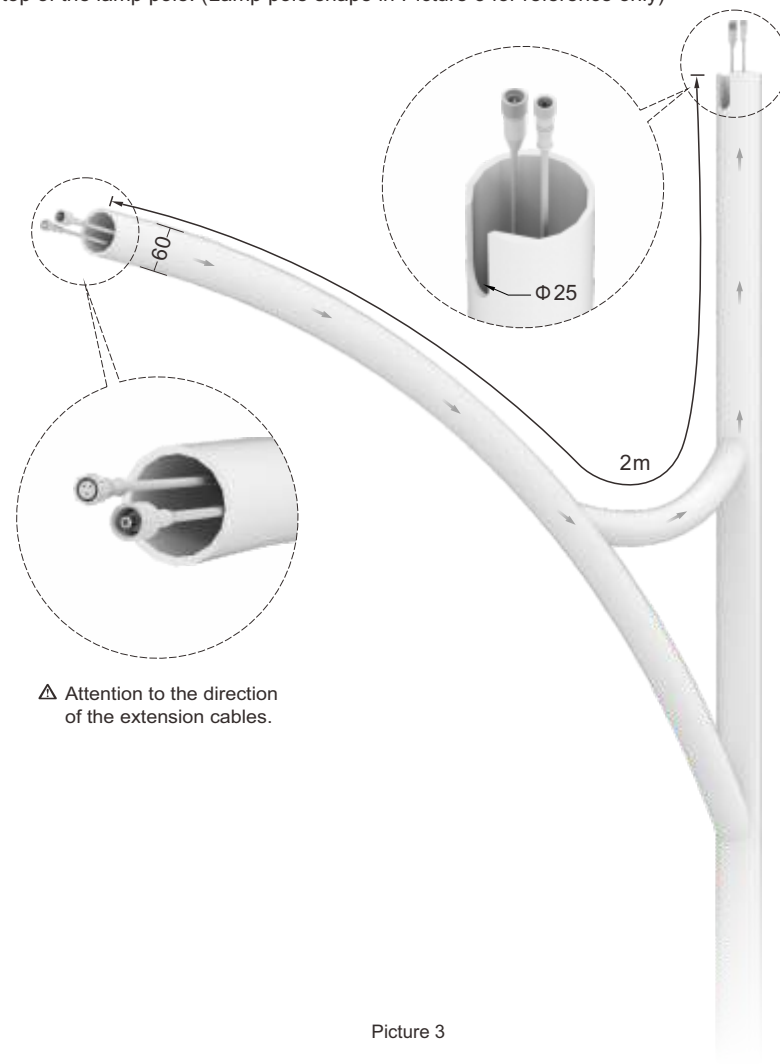


Picture 2

SPLIT TYPE

2. Cantilever Threading:

Determine and mark the solar engine and luminaire position according to the optimum sun radiation and road condition. Drill the other $\Phi 25$ hole on the pole where the solar engine is to be installed for threading waterproof cables. Pass two extension cables through the cantilever and the top of the lamp pole. (Lamp pole shape in Picture 3 for reference only)



Picture 3

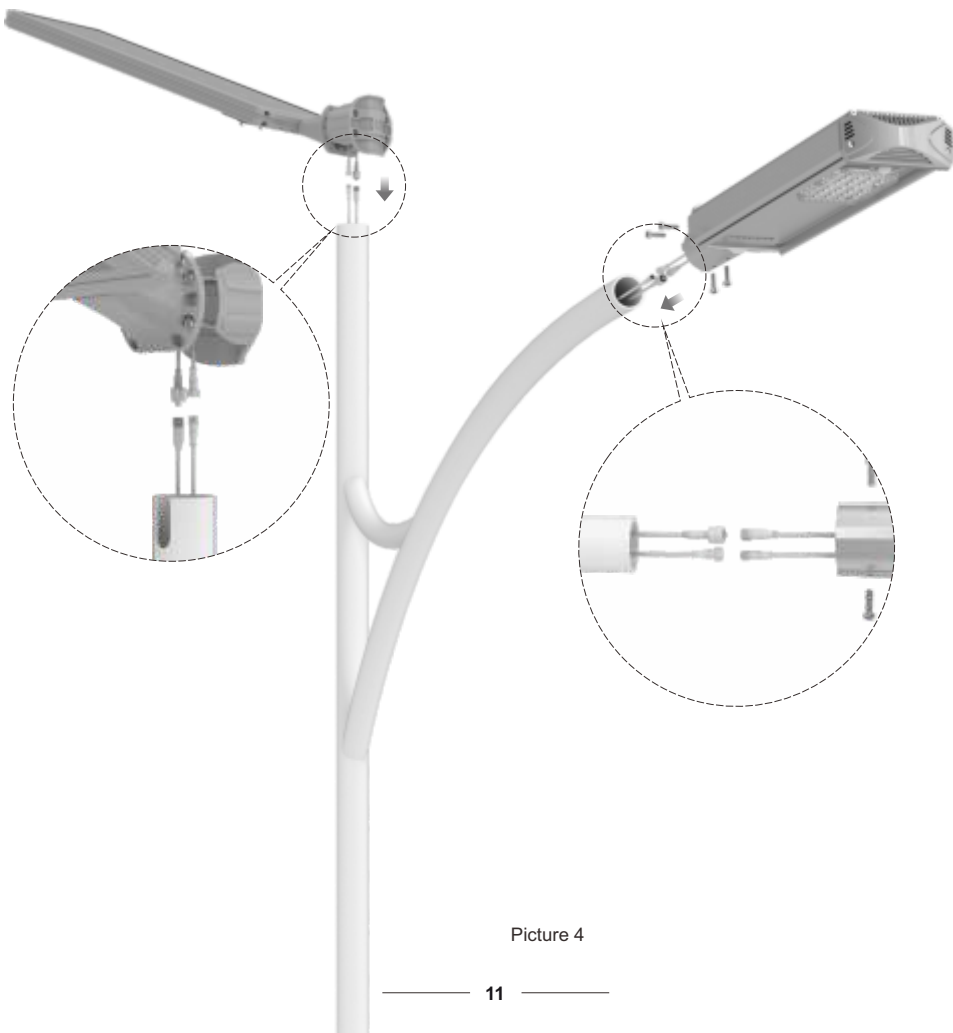
Product Installation

3. Solar engine installation

Connect all cables together and lock the terminals. Mount the solar engine on the pole by 4pcs M8×90 bolts. (See Picture 4).

4. FREEDOM Classic LED Street light installation:

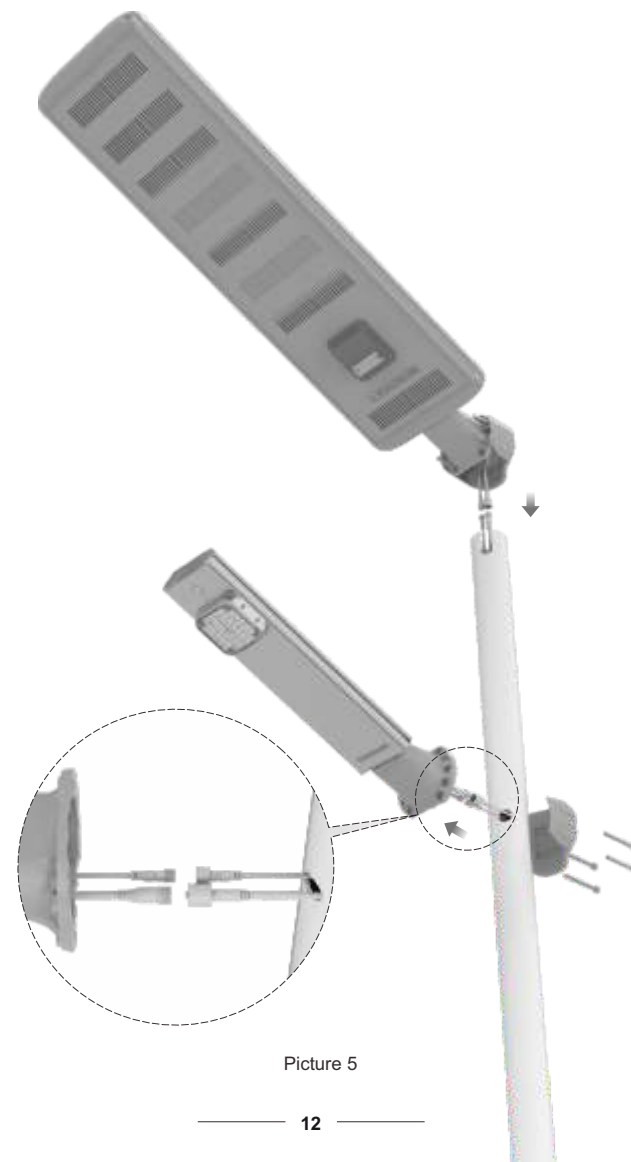
Connect the extension cables from the cantilever to the cables of the luminaire and lock the connectors. Embed the luminaire bracket into the cantilever and fasten it by 6 M8×16 screw and make sure the luminaire has been installed stably on the pole. Then the installation is finished. If you use a electric wrench, torque should be set to 14N·m) (See Picture4).



Picture 4

5. RHEA MINI LED street light (Optional) installation:

- 1 Thread 2 extension cables from the small hole for luminaire to the top of lamp pole.
- 2 Connect the luminaire and solar engine with the corresponding cables. Mount the luminaire on the pole with 4pcs of M8×90 bolts. The maximum torque for those M8 bolts is 14Nm. Do not surpass this torque specification. (See Picture 5)



Picture 5

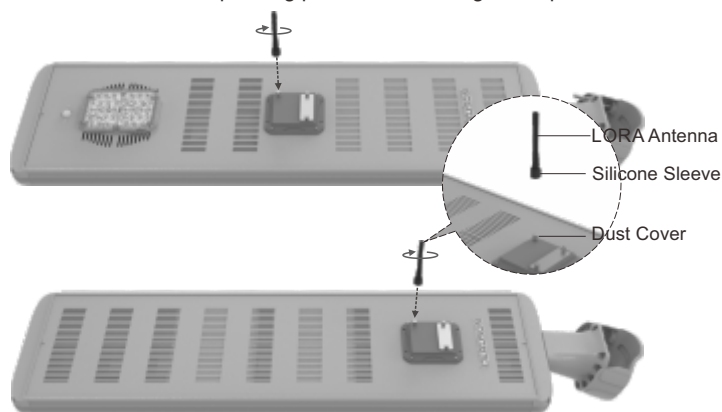
6. Wireless system installation (Suitable for wireless type)

Cautions:

1. Please confirm if the 4G module in the gateway can support the data network covered by the local carrier before installation.
2. When using the inbuilt gateway with 4G module, users need to insert a SIM card which has the data service into the gateway. Relevant fee of data service will be charged by the local carrier.

1 Antenna installation

Connect the antenna to the corresponding positions according to the picture below.



LORA Terminal antenna installation

2 Insert SIM Card

Insert the 4G SIM card into the slot according to the below picture. Press the button next to the slot to restart the gateway and then cover it with the waterproof plate.



Cautions: Ensure the SIM card cutting edge is facing down and the magnetic stripe is away from the indicator lights.

3 Software operation instruction

Please use LEDSUN EDGE APP to remotely control and configure the street light. Visit www.ledsunglobal.com and follow the steps to Download the LEADSUN EDGE.

- A. For IOS users, please download "LEADSUN EDGE" from APP STORE.
- B. For Android users, please download "LEADSUN EDGE" from www.ledsunglobal.com or software platforms like Google Play.
- C. Web version for computers: please visit <http://47.52.88.104:8083/Home/Login>

With LEADSUN EDGE, the following operation are available:

1. Register to become a member
2. lighting control
3. Working mode setting
4. Real-time view.

For detailed instructions, please see the "APP User Guide" under "More Functions" in the software.