

## Troubleshooting

No.	Symptoms	Troubleshooting steps	Process
1	No light at night	Check that the lamp can be manually activated.	Refer to "Activation and Installation" section on this user guide and run activation tests.
		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.
		Examine status of each component based on the repair 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 panels as detailed above.
		Examine if the battery pack is damaged as per the repair guide instructions.	Replace damaged battery.
3	Lighting does not follow the normal operating mode of turning on and off		Confirm with supplier that the correct working mode was used.
4	Lights fail to turn on properly when humans approach	Check if the air temperature 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 height 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.
			Replace damaged motion sensor or controllers.



# AE3 SERIES

## Solar Light

## User Manual

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## Warning and Caution

Please read the below cautions carefully before using the AE6 series solar street light to avoid physical injury and product failure caused by improper use.



### Attention

- A licensed electrician is required to install the unit with an AC power supply. If this product contains the main power supply it must be installed by a licensed electrician. Please ensure this light fixture is installed in accordance to local regulations.



### Working condition

- Product protection grade Ip65
- High tensile structure design can withstand level 3 typhoon (58m/s), beyond this level might cause damage to the street light.
- Working temperature range from -20°C to 60°C (charging temperature is limited within 0°C to 60°C). The product with heating function can work under -40°C to 60°C.



### 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.
- The solar panel of the product is fragile, tier limitation is two layers. No stacking out of limits and No press with heavy stuff.
- Store the product under the temperature from 0°C to 45°C.
- It should be charged every six months if the product is stored for long time. please use the special charger to charge the product (the charger needs additional purchase) 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 dirt mark 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 or it would cause serious damage to the product. if the user disassembles the product without authorization, warranty becomes void.



### Product recycling

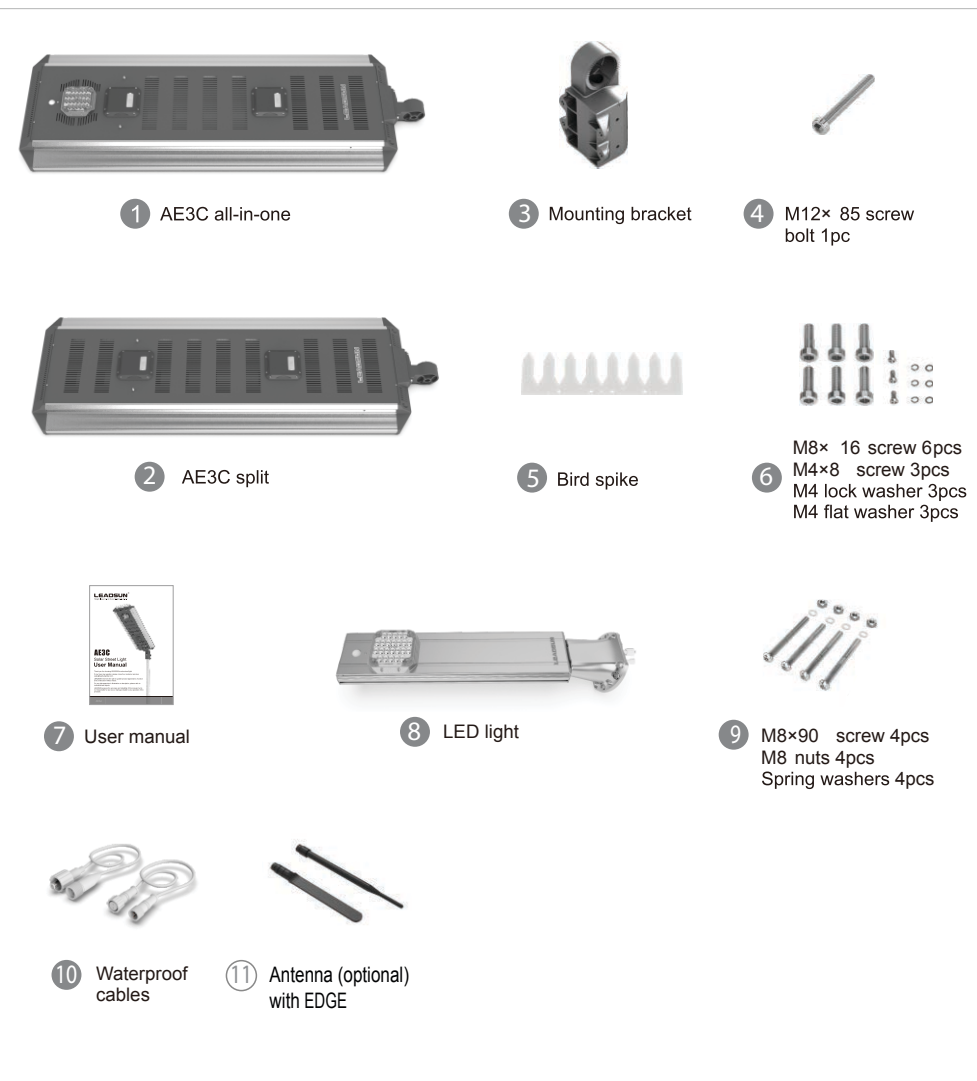
- The product is made of recyclable high-performance materials and components, please don't dispose with other household garbage.
- Please understand the local rules about the separate collection of electronics and electrical products, dispose the waste products in the right way that avoids potential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

## Parts List

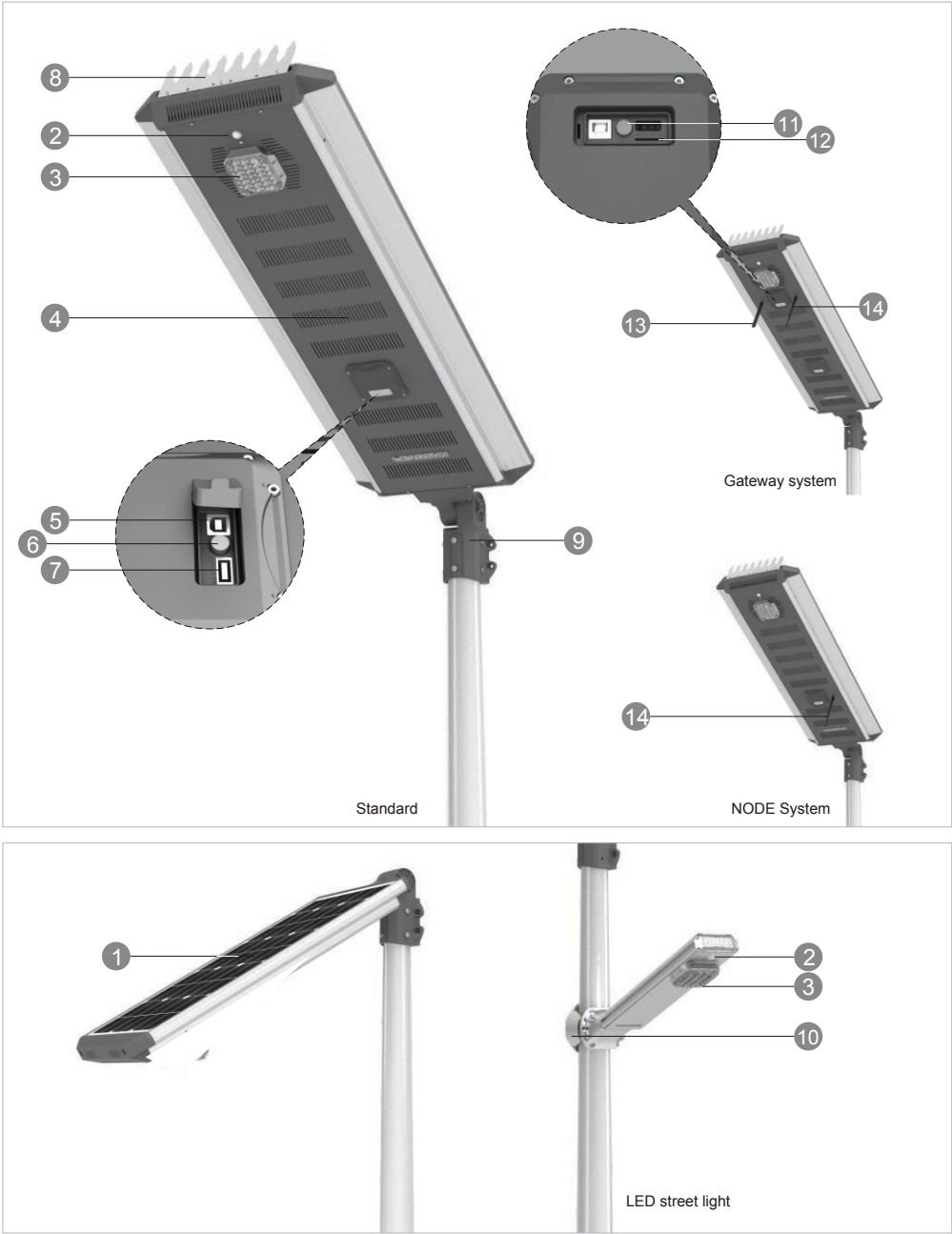
Please open the package and confirm that all parts were received prior to installation. The parts of each type are listed below:

“All-in-one”: ① ③ ④ ⑤ ⑥ ⑦ ⑪

“Split Type”: ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪



Part Description



The Part list is the whole product series functions instruction. The user can look up the corresponding function according to the 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	Type B USB connector female	For programming
6	Switch button	ON/OFF or Turn ON/OFF the light
7	Type A USB connector female	For battery charging via 14VDC 1.5A power supply
8	Bird spike	Prevents solar panel contamination from bird droppings
9	Mounting bracket	Fix AE3C to pole
10	Anti-thief bracket	Fix LED street light to pole
11	Reset butt on	Reset the gateway *EDGE Only
12	SIM card slot	Insert 4G card *EDGE Only
13	4G Antenna	Wireless network communication
14	NODE Antenna	Network group communication

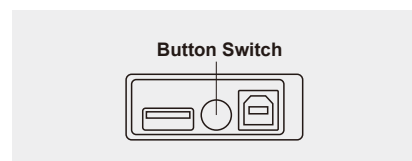
# Operation Instruction

## Overview

The AE3 Series Solar System is a versatile, robust Solar Light. With an integrated Photovoltaic module, lithium battery, infrared sensor and highly efficient controller. This system produces high illuminance, has a long lifespan, is easy to install and is virtually maintenance free.

## 1. Selective Mode

- ★ OFF mode: The system will not work, charge or discharge.
- ★ Transport (idle) mode: the system will power off in an hour and goes to the OFF mode.
- ★ ON mode: the system will work normally, charging in the daytime and discharging at night.

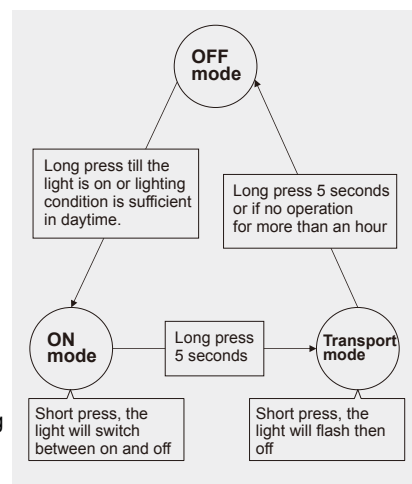


## 2. Start up

- ★ **Daytime start-up:** when the lighting condition is sufficient ( $>30lx$ ), the light will illuminate for 20 second and then turn off. The light will function as normal from that night. If there is not sufficient lighting using the Night start-up mode is required.

- ★ **Night start-up:** hold button down for 5 seconds and release, the light will turn on. Pressing the button once will turn the light off.

After the light goes off, if it meets the normal lighting condition the light will function as normal from that night.



## 3. Button instructions

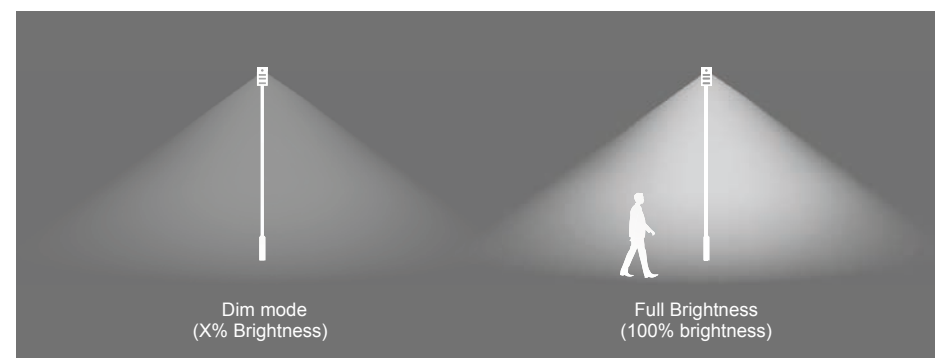
Short press the button (1s) to find out the current product mode:

- ★ Short press the button, if the lighting status does not change, it is in the OFF mode.
- ★ Short press the button, if the light flash and then off, it is in transport (idle) mode;
- ★ Short press the button, if the light switch between ON and OFF directly, it is in ON mode, In this mode, it can switch the light ON by short press the button.

Long press the button for (5s) to switch the working modes:

- ★ In the OFF mode, if the lighting condition is normal the light will start up automatically; or long press the button 5s, if the light is ON and then OFF, the product will go into the ON mode.
- ★ In the ON mode, long press the button 5s, the light flash 3 times then off, the product will go into the transport (idle) mode; if the light is disconnected from the solar panel, the product will go into the OFF mode directly;
- ★ In the transport (Idle) mode, long press the button 5s, if the light flash one time and then off, the product will go into the OFF mode; or without any operation after an hour, the product will go into OFF mode automatically.

4. At factory setting the units turn on at dusk and off at dawn automatically (light photosensitivity is around  $30lx$ ). Depending on the programming mode how the system operates will depend on what working mode was selected.

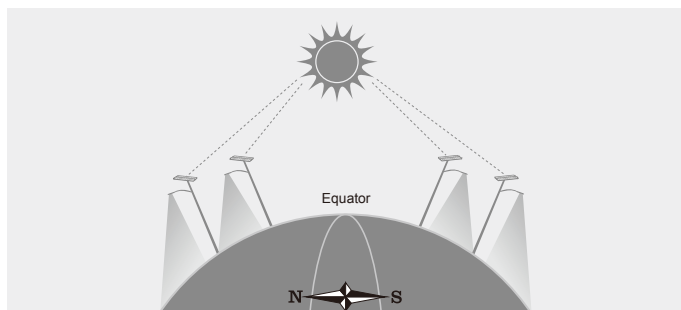


5. All internal parts are waterproof and rated to IP65. Holes and slits on the luminaires are designed for heat dissipation and drainage. Metal parts are made of anodized rustproof aluminum, which withstands high temperatures and humid weather. However, it is recommended that you avoid areas with heavy acid mist or salt influx. The strong structural design can withstand the wind speed up to 180km/hr.

# Product Installation

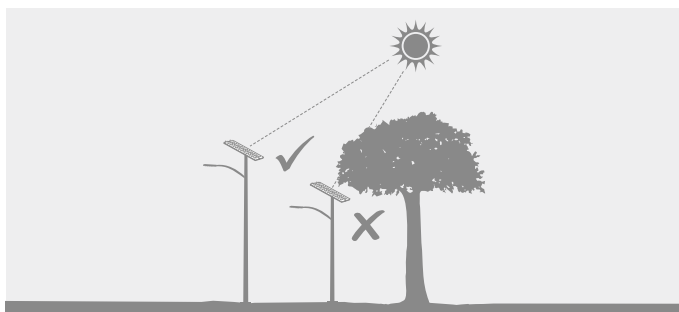
## 1. Installation conditions

- 1 If the installation site is on the northern hemisphere, the solar panel should face to the south and if it is on the southern hemisphere, the panel should face to the north. (See Picture 1)



Picture 1

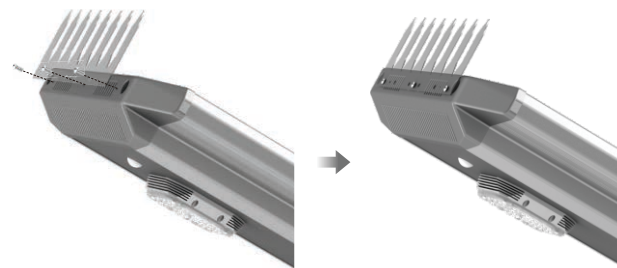
- 2 Make sure the sun is not blocked by any buildings or trees during the installation or it will affect the charging and discharging efficiency of the solar power system and the operation of the street light. (See Picture 2)



Picture 2

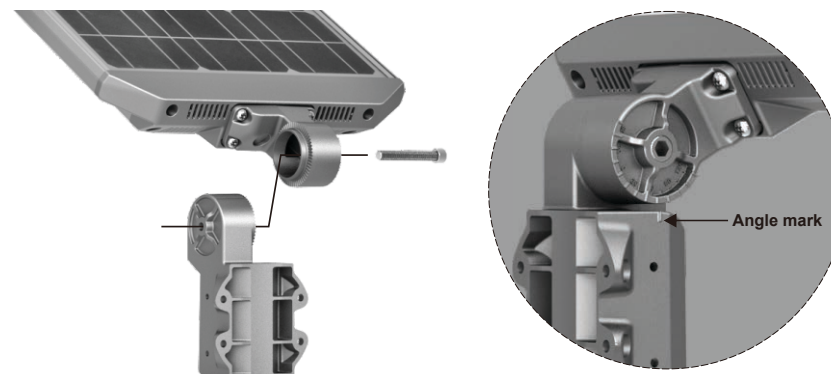
## 2. All-in-one activation and installation:

- 1 **Bird spike:** Use 3 sets M4×8 screw, lock washer and flat washer to fix the bird spike along the rim of the top of the light. (See Picture 3)



Picture 3

- 2 **Install the bracket:** Attach the bracket to the AE3 unit and set a proper angle that solar panel can obtain maximum energy from the sun (each scale is 6 degree). Recommended installation angle of the solar panel for Australian southern states is 43° and for Australian northern states is 23°. Fix the bracket by fastening a M12 x 85 bolt. (See Picture 4)



Picture 4

# Product Installation

## 3 Installation of the system:

Place the solar panel to the pole and fasten lightly with 6pcs M8 ×16 screws.



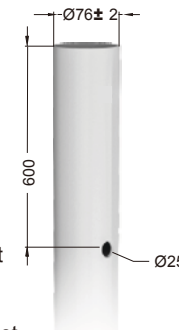
Picture 6

4 Face solar panel in the desired direction and fasten the M8 x 16 screws.

5 Activate solar panel as per Operation Instructions (Page 5)

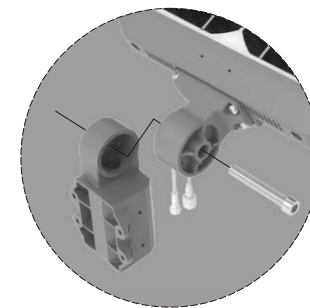
## 3. Split type activation and installation:

1 **Drill holes on the pole.** Firstly, determine and mark the AE3 panel and LED light position according to the optimum sun radiation. Drill a  $\Phi 25$ mm hole approximately 600mm down from the top of the pole, where the light is to be installed. (See Picture 8)



Picture 8

2 **Attach the bracket to the AE3 unit.** Thread the cables from the hole on the bracket and set the proper angle in which the solar panel can obtain maximum energy from the sun (each scale on the bracket is 6 degree). Fix the bracket to the solar panel by fastening a M12 × 85 bolt. (See Picture 9)

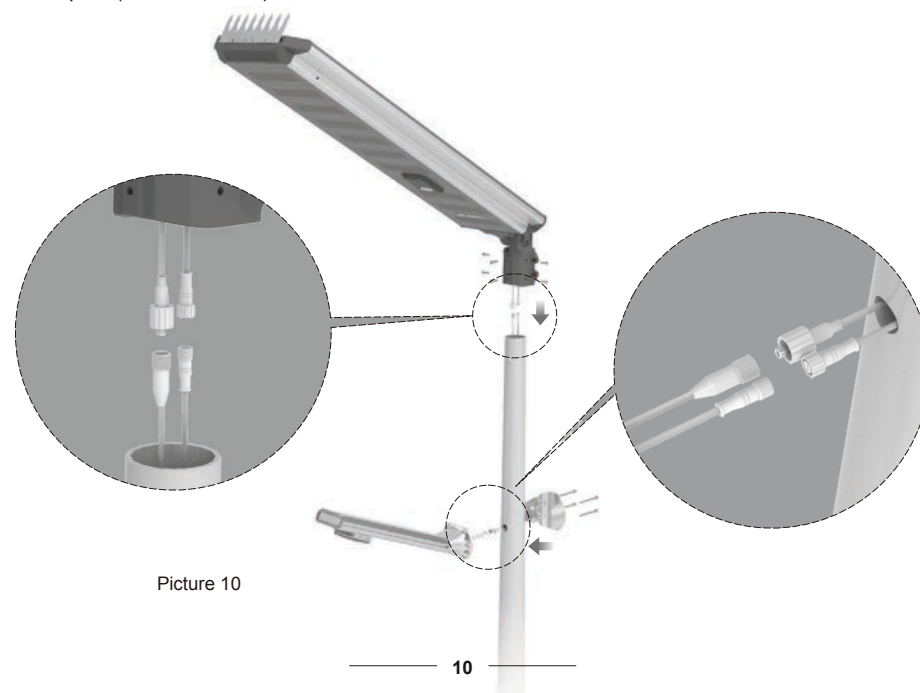


Picture 9

3 Thread 2 pieces of 2m waterproof cables through the  $\Phi 25$ mm hole which was made in step one and then out from the top of the pole.

4 **Mount the LED light:** Connect the LED light with corresponding cables. Mount the LED light on the pole by 4pcs M8 ×90 bolts. The maximum torque for those M8 bolts is 14Nm. Do not surpass this torque specification. (See Picture 10)

5 **Mount the AE3 panel:** Connect the two cables from the top of the pole to the solar panel and install the solar panel ensuring you do not pinch any cables use 6pcs M8 x 16 screws to secure the bracket to the pole.(See Picture 10)



Picture 10



# Product Installation

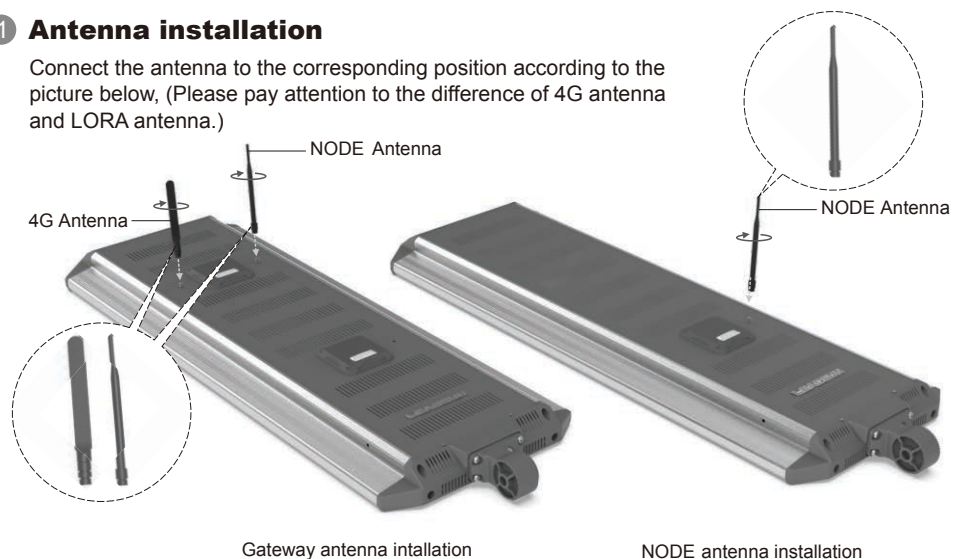
## 4. Wireless system installation EDGE

### Caution:

1. Please ensure you have a Sim Datacard which support 4G Network.
2. Is the operators responsibility to ensure that is enough data to operate wireless communications. It is suggested that a minimum of 100mb a month is available for wireless communication (data used is dependent on the amount of times the user interacts with the system).

### 1 Antenna installation

Connect the antenna to the corresponding position according to the picture below, (Please pay attention to the difference of 4G antenna and LORA antenna.)



### 2 Insert SIM Card

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



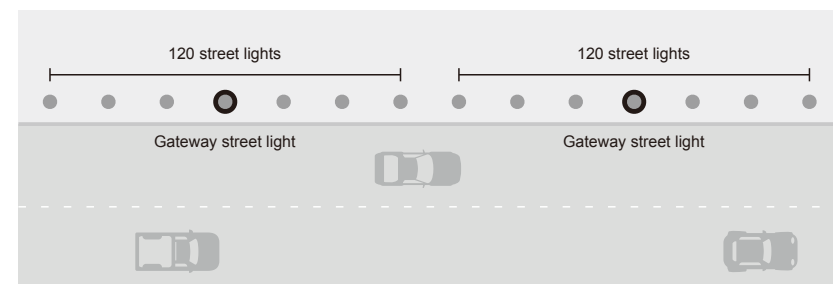
**Cautions:** The SIM card cutting edge is face down and the magnetic stripe is away from the indicator light.

## 3 Application scenarios

Each wireless street light communication distance range from 800 to 3000m. One gateway street light can remote control 120 street lights.

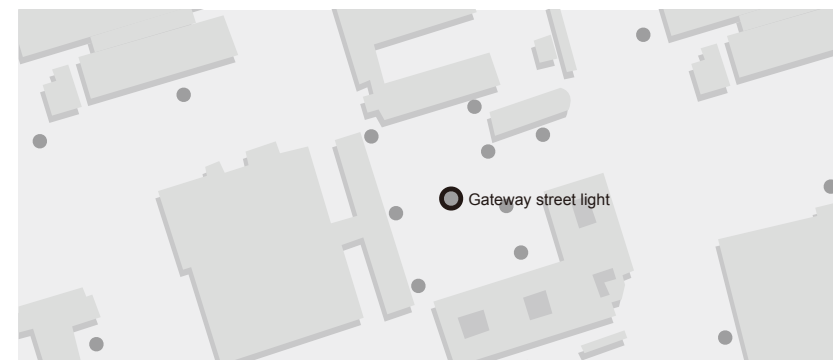
### Road installation

Linear installation is adopted on the road. It is possible to consider installing multiple lights with several gateways if the communication signal may be weak.



### Decentralized installation in Factory/Park

In the situation of decentralized installation, the gateway system is recommended to be installed in the center of all the street lights.



### 4 Software operation instruction

To use LEADSUN EDGE to control the light, visit [www.leadsun.com.au](http://www.leadsun.com.au) and follow the steps to Download the LEADSUN EDGE APP.

- A. iPhone please go to the App Store searching 'LEADSUN EDGE APP' then click install.
- B. Android cellphone please visit [www.leadsun.com.au](http://www.leadsun.com.au) or go to the software platforms like Google Play to download and install 'LEADSUN EDGE APP'.
- C. PC App please visit <http://47.52.88.104:8083/Home/Login>

#### **With LEADSUN EDGE APP, you can do the following operation:**

1. Register to become a member
2. Lighting control
3. History data query
4. Working mode configuration
5. Real-time view.

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

### Transportation and Storage

- This product contains lithium batteries. Please follow air transport regulations when shipping. It should be regarded as potentially flammable and explosive, and be isolated from other goods when stored, so as to avoid any damage.
- The solar panels should be considered as fragile. There should never be more than 4 layers of boxes when stacked. To avoid damage to the panels, make sure no heavy pressure is applied to the boxes.
- Please store the product in temperature between 0°C to 45°C.
- If stored for a long period, the product should be recharged every 3 months. Please only use the special charger (purchased from manufacturer) to avoid damage to the battery or place the solar panel in the sun for at least 4 hours.
- When repackaging the product after inspection or charging, set the light into sleep mode by holding the On/Off button for 5 sec. The light will flash three times to signal that it has properly entered sleep mode. You may now repackage the product into its box. To exit sleep mode, either press the On/Off button one more time, or wait an hour for the light to reboot automatically through contact with sunlight.

### Clean

To clean, apply mild detergent with a damp cloth and gently wipe the surface of the solar panel.

### Replacement of Parts / Spare Parts:

Please contact LEADSUN or your local distributor/dealer.