CHINT Solar Street Light Solutions

With a large number of streetlights, they are the most intensive infrastructure in urban and highway construction. Traditional street lights are constructiontoriented and maintenance-oriented, and there are management problems. Later maintenance and management work cannot keep up, making the implementation of street lighting maintenance slow and making it difficult to ensure the safety of residents at night.

Improving street and expressway lighting is one of the most obvious and effective ways to improve the quality of life and economic vitality of cities. According to PHEILIX's project case statistics, the use of solar street lights will reduce overall energy and maintenance costs by more than 50%. In the future, new control technologies can be continuously upgraded and advanced energy management, security and communication systems can be integrated on the same infrastructure.

Working principle

Reference photo of Solar Street Light

Solar street light working principle is easy and simple. Solar street lights have solar panels that are responsible for converting the sunlight radiation into electricity. The device's semiconductor materials facilitate the process of conversion of solar energy into

Solar street lights will experience four stages during working

Charging

Throughout the day, the solar panels will convert the solar energy from the sun into electricity which will charge the battery. The intelligent solar controller charges the battery throughout the day and controls the current to ensure that the battery is not overcharged.

Stop Charging

As the sun sets, the built-in photocell will sense the voltage drop, the panels are no longer taking a charge. The battery has been charged throughout the day and is now ready to discharge and provide electricity for the lamp and turn it on. If there is inclement weather, there are usually 3-4 days backup for most solar lighting system. The specific configura- tion depends on customer needs.

Lighting

When the illuminance of the surrounding environment or time reaches the starting threshold set by the controller, the solar street light is started and powered by the battery.

Stop Lighting

When the illuminance of the surrounding environment or time reaches the shut-down threshold set by the controller, the solar street light is turned off and the battery stops supplying power.

PRODUCT EATURES

Resource Integration

Utilise existing infrastructure to integrate resources and improve the utilisation of urban infrastructure

Space Optimisation

Make full use of pole-mounted space, unite multiple poles, optimise urban space and enhance the utilisation of urban public space

Wide coverage advantage

Smart street light has network, electricity, mountable and wide coverage characteristics, which is the best carrier for 5G signal coverage, IoT device mounting and data collection, and fits in with the new infrastructure needs

Energy saving and carbon reduction

Intelligent switching, intelligent dimming and green power technology are used to achieve energy saving and carbon reduction in street lighting Low installation and operation and maintenance costs

System Configuration

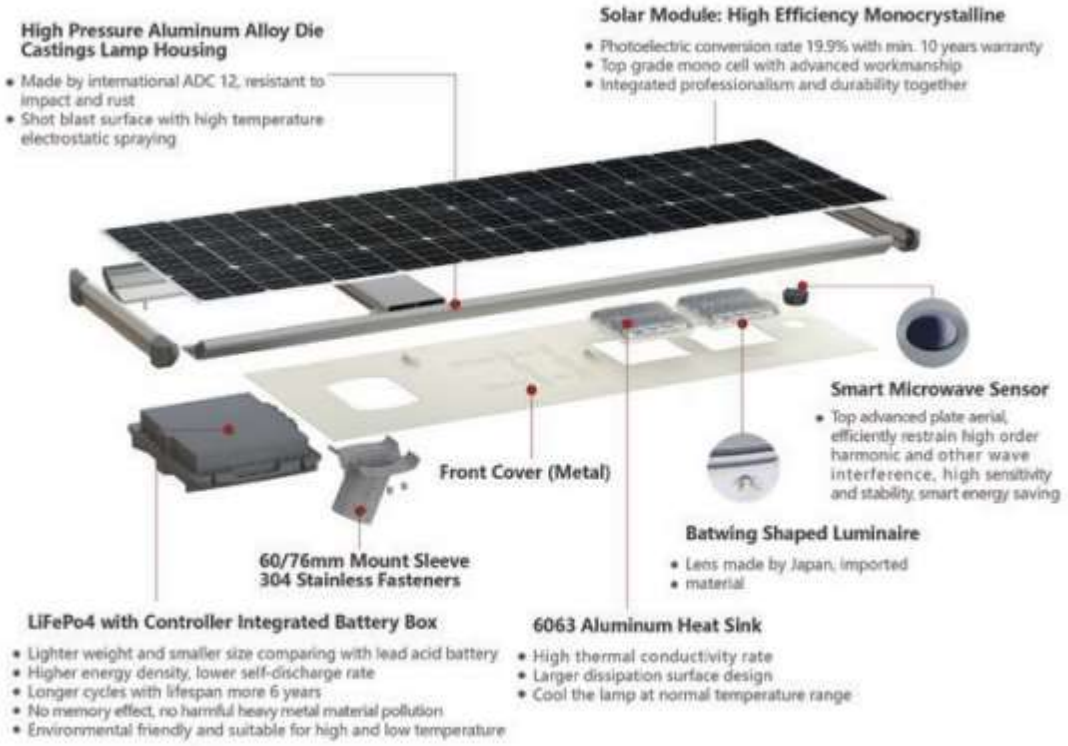
Solar Street Light Solution

ALL - IN - ONE

ALL-IN-ONE solar street light means solar panel, lighting fixture, rechargeable batteries are all integrated together.

ALL-IN-ONE solar street lights use a microwave induction method to control the on and off of the street light. The microwave induction switch is a moving object detector designed using the principle of the Doppler Effect. It detects whether the position of the object is moving in a non-contact manner, and then generates a corresponding switch operation. The product has strong anti-radio frequency interference ability and is not affected by temperature, humidity, light, air flow, dust, etc. When no one passes by, the street light can automatically adjust to 15% of the actual power operation to save energy. In addition, the control strategy can be reset as needed.

- Key components structure diagram



System Configuration

Split type

The Split type lamp is divided into two parts, ALL-IN-TWO and ALL-IN-THREE; The Split type solar street light has four parts: solar panel, lighting fixture, rechargeable
battery and pole.
The split type lamp uses light-controlled time controller to control the on and off, with a maximum of 4 periods settings.

■ Key components structure diagram

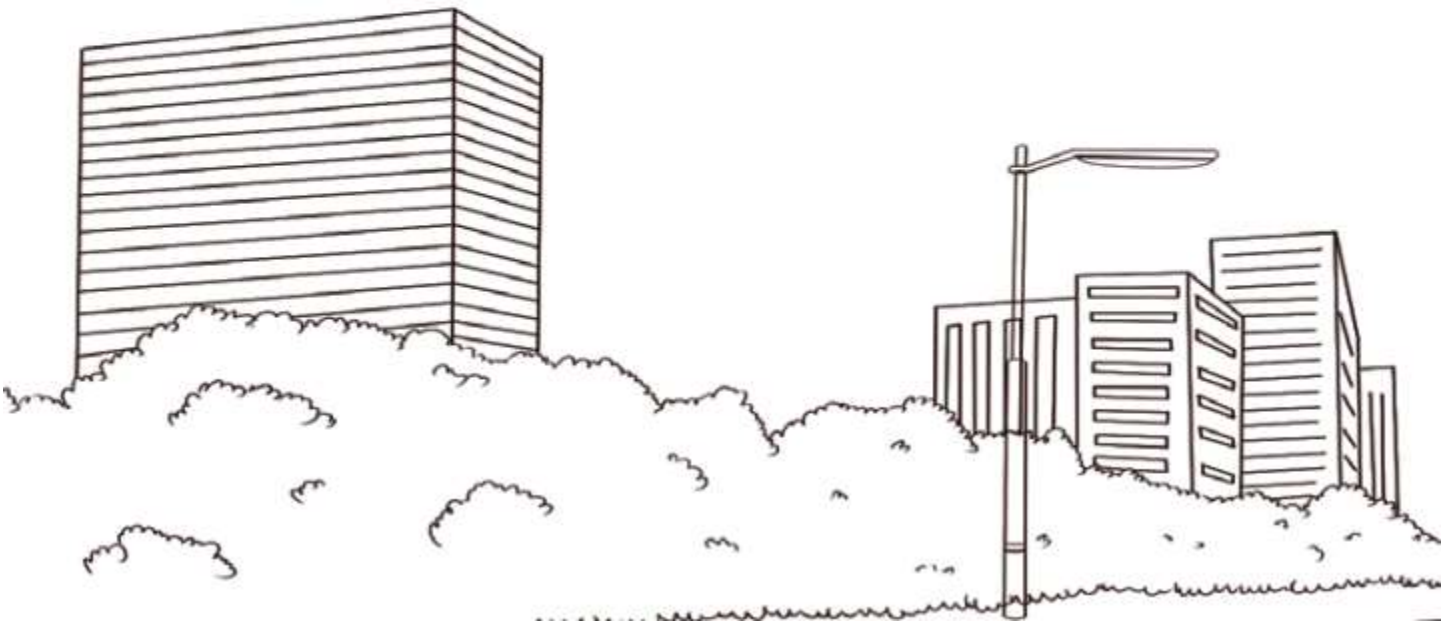
Smart Street Light Solution

At present, the intelligent street light on the market is to use the street light pole as a carrier to install additional functions, such as traffic monitoring, public safety monitoring, pollutant monitoring, air quality monitoring, meteorology, medical assistance, wireless WIFI, voice broadcasting, information screen, charging pile, big data collection and other equipment, also known as "multi-functional street light", and therefore has the potential to grow with the city. The product itself is not primarily a technological innovation, but rather an innovation in the integration model. The product itself is not primarily a technological innovation, but an innovation in the integration model. It takes advantage of the ubiquity of streetlights, sharing resources and using streetlight poles as carriers for interconnection and interoperability, providing a means to improve the intelligent management of the city and speed up response times.

PHEILIX's intelligent circuit breaker cloud platform provides an overall system
solution for light pole microstations.

Solar street light with charging pile solution, PHEILIX can provide site procurement and provide charging pile solution.

For solar street light IoT solutions, PHEILIX can provide monitoring modules that allow customers to remotely access street light information, operation and maintenance via online websites and apps.



System Solution

The lifeblood of the city - the water, electricity, gas, heat and transport that are essential to people's daily lives. PHEILIX Group has integrated "Smart Energy", "Smart Power", "Smart Water", "Smart Heating", "Smart Gas" and "Smart Transport" into the solutions.

In the future, smart street lights will have more opportunities in urban road traffic, urban security and IOT communication. It will become an important data support for the development of smart cities.

Smart Street Light Service Empowerment

Citizens
Safe passage, information access, wireless WIFI

Traffic control, City management, Operation platform
Quick mount, easy access to power, unified interface, standardised management (power supply, pole, communication, data), the Formation of an open, integrated and shared ecological environment.

City Manager
Dynamic asset management, intensive management, full poles and boxes to achieve "green - energy saving - environmental protection".