



SolarWrap

**hexagon vertical solar panel
and led street light solution**

Patent No.: ZL 2021 2 0422526.4

New Installation of Solar LED Street Light

Vertical solar led street light is a latest great innovation, it is becoming more and more popular in many countries because of many advantages and its harmonious appearance. Trismart Lighting is integrating the technology of lithium battery and high efficiency of solar modules as well as solar charger controller.

LiFePO₄ battery pack and MPPT solar charge controller are built inside of solar led street head. Solar led light head and vertical solar panel module are connected by M14 plugs. The whole system adopts the modular concept. Vertical solar modules are supposed to be assembled to pole at project site. And customers also can arrange the poles locally to save cost.

Retrofit of Traditional Street Light

There are huge numbers of traditional street lights installed in everywhere whose light sources are MH or HPS. The power consumptions of these traditional street lights are very high while the lighting efficiency is very low. As the energy shortage globally are getting worse, all of these old traditional lights are supposed to be retrofitted by led and solar energy technology in order to reduce the energy consumption to build up a green earth.

Trismart's vertical solar solution is a perfect answer to meet this requirements. It can retrofit the old lights without replacing the poles, and no need to dig holes on ground for battery or attach the battery box on pole if adopt all in two solar light heads. It can reduce the cost of retrofit work in labor cost, pole cost etc. greatly and keep light pole almost same appearance as before.

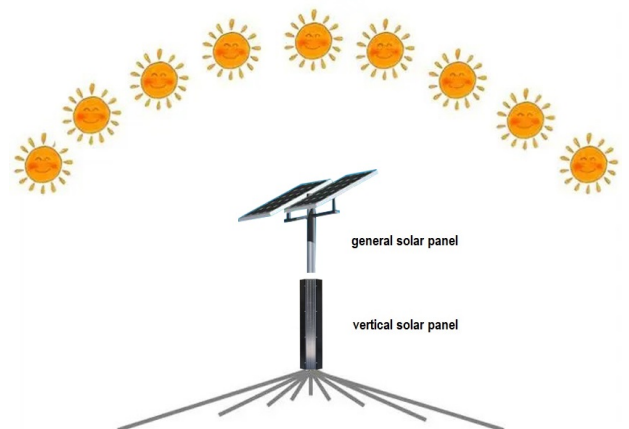


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Hexagon Vertical Solar Lighting Solution

Vertical solar led street light pole is an advanced combination with latest technology. It adopts the cylindrical solar modules as a revolutionary design. The vertical solar module is based on modular conception which can be easily mounted to any kind of pole within diameter 60-120mm. It adopts mono crystalline solar panel with high efficiency up to 23%-24% and more than 25 years' lifespan. It has a flexible modular design and with much aesthetical appearance. And it has a great performance in wind resistance than regular solar panel. The complete solar pole only includes two functional components including solar cylinder and solar light head which can be connected to each other directly by M14 connectors. The battery and solar controller are built inside of light fixture.

Vertical solar led street light pole is a premium and advance product. It is specially designed for those projects concerning a lot on aesthetical appearance with high luminous flux, durable quality system and long-time use without any maintenance.



Schematic diagram of solar positions and irradiation angles at different times

Advantages & features



Modular design

- Modular design for power combination and installation easily.
- It can be directly converted into solar street lamps on the old lamp pole to reduce the cost.



Dust prevention accumulation

- Solar panels are installed vertically to reduce the accumulation of dust and bird excrement, and maintain the full absorption of solar energy.
- Especially suitable in desert and dusty areas



Snow prevention accumulation

- Solar panels are installed vertically to reduce snow cover.
- It can maintain a high solar energy absorption capacity in snow winter.



360° full-range charging

- Six solar panels are coated with lamp poles to ensure that 50% of the solar panels are illuminated at any point of the day and can be fully charged at 360°.



Anti-strong wind and hail

- Solar panels are designed and installed vertically with a small windward area to resist strong wind and hail damage.



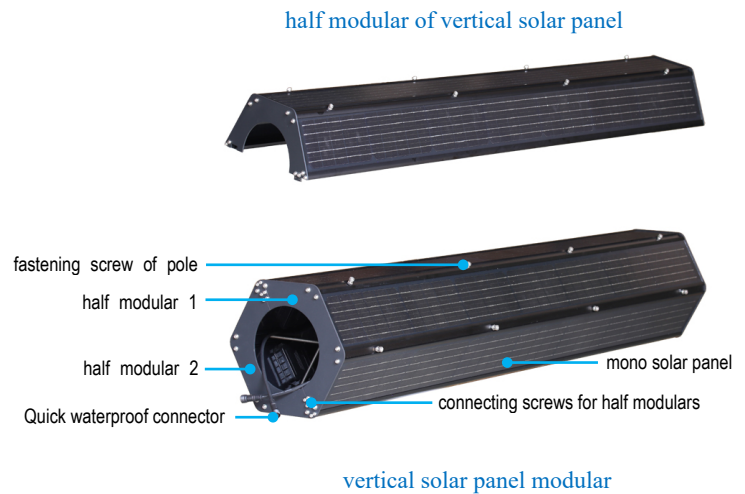
Easy access for cleaning and maintenance

- Solar panels are vertically designed and installed which do not need to rent a lift to clean solar panels, workers can operate on the ground to reduce maintenance cost.



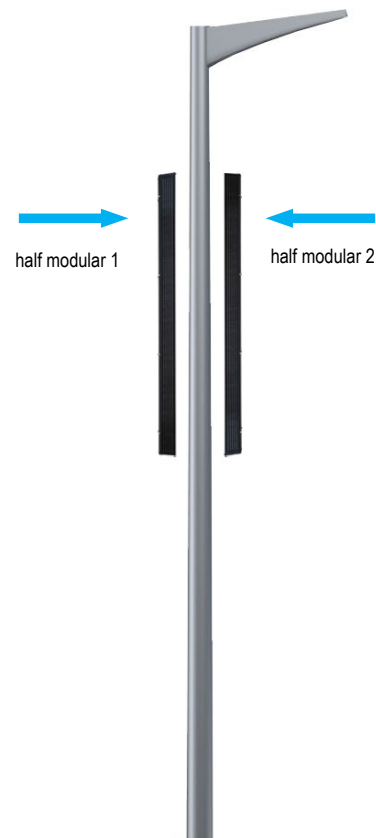
Advantages of patent module structure design:

- Adopting a half modular design and production of vertical solar panel structure composed of three mono solar panels, it is no need for on-site assembly and soldering of solar panels;
- On the construction site, the two half modular vertical solar panels can be folded together to hold the lamp post and then form a vertical solar panel modular;
- The parallel connection of two half module vertical solar panels and the connection between the vertical solar panel module and the lamp head all use waterproof connectors, which are fast, convenient, and reliable;
- Using vertical solar panel modules for packaging and transportation, it has a small volume, reliable transportation, and low cost.



Vertical solar panel module installation:

- Remove the connecting screws of the half modular and split the vertical solar panel modular into two half modulars, namely half modular 1 and half modular 2;
- Hold the lamp pole in the direction of the arrow between half modular 1 and half modular 2, and then use half modular connecting screws to combine the two half modulars of vertical solar panels into a vertical solar panel modular;
- Adjust the vertical solar panel modular to the appropriate height position on the lamp post, and then tighten the fastening screws of lamp pole (pay attention to adjusting the depth of the fastening screws of lamp pole to make the position of the lamp pole in the center). After tightening the fastening screws of the lamp pole in place, and then tighten the locking nut again
- Dock and tighten the equipped one to two waterproof cable connectors with the waterproof connectors of the half modulars.



Specification for vertical solar panel:

Item	120W	150W	200W
Material	Aluminum alloy	Aluminum alloy	Aluminum alloy
Dimensions	265*233*1112mm	265*233*1420mm	265*233*1750mm
Pmax	120W	150W	200W
Vmp	16.5V	18V	18V
Imp	7.3A	8.4A	11.1A
Solar panel	Mono solar panel	Mono solar panel	Mono solar panel
Solar cell efficiency	23%~24%	23%~24%	23%~24%
Cable	M14 1.0m	M14 1.0m	M14 1.0m
Working temp.	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Lifespan	25 years	25 years	25 years
Weight	11Kg	17Kg	23Kg
Pole diameter	φ60~120 mm	φ60~120 mm	φ60~120 mm
IP protection	IP66	IP66	IP66
Warranty	5 years	5 years	5 years

Note: Customized production can be made according to the diameter of the lamp pole in the project





Trismart Lighting

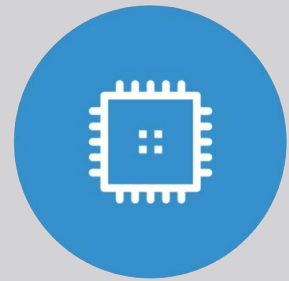
speciality builds higher quality



energy-saving



quality



intelligent

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