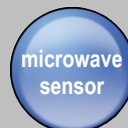




Shenzhen Trismart Lighting Technology Co., Ltd. is a research and development, design, production and sales of private high-tech enterprises. Company's management and technical team has 20 years' experience in the development and design of industrial lightings, professional lightings and lighting engineering systems. The chairman of the company, Dr. Chen, is the member of China Lighting Society, the Deputy Secretary General of the Shenzhen Lighting Appliance Association and a senior expert of Shenzhen Lighting Society. Trismart Lighting is a cooperative supplier of European Union led street lamps, a network supplier of Royal Shell (shell) and a network supplier of large enterprises such as Sinopec, PetroChina, State Grid, Datang Electric Power and Huadian Group.

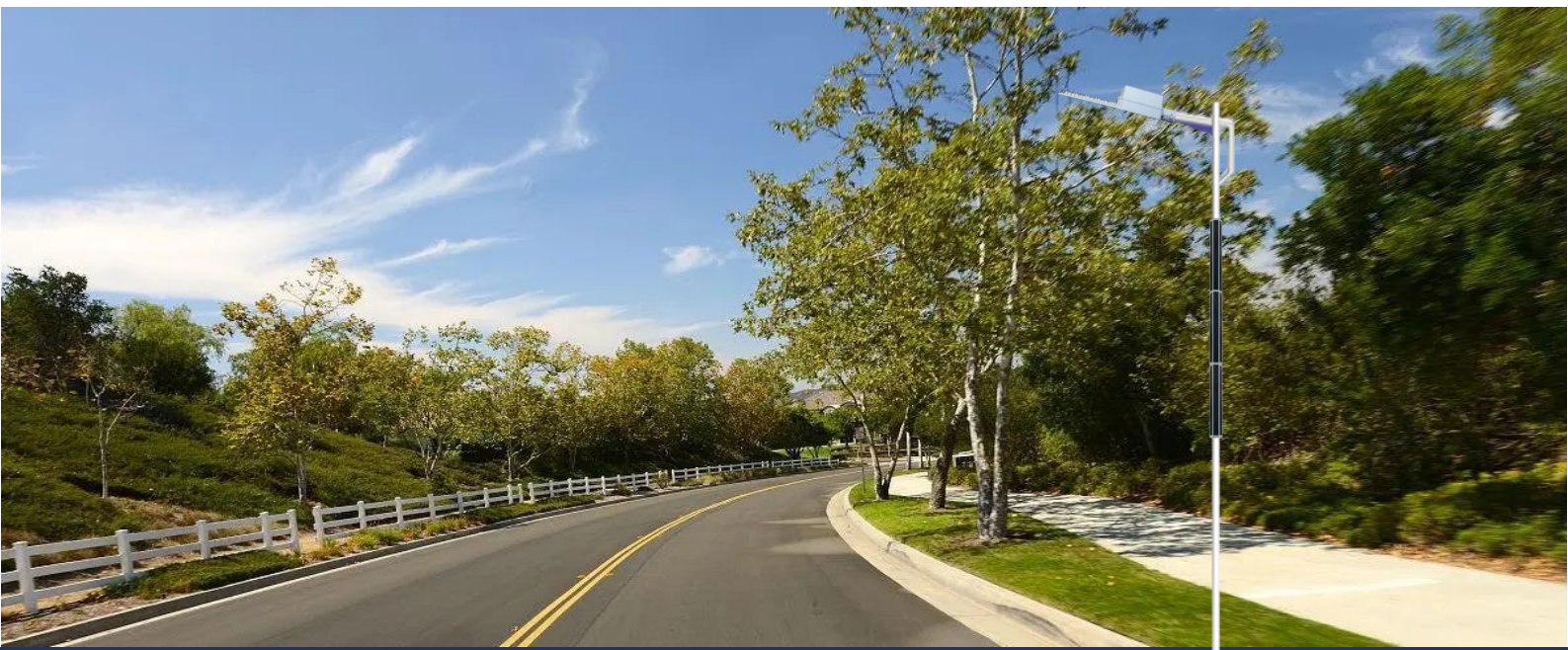
[WWW.SZTRISMART.COM](http://WWW.SZTRISMART.COM)



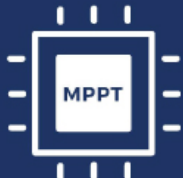
# Vertical Solar Panel Led Street Light

SZG574V hexagon solar panel led street light is an intelligent solar lighting system with easy to purchase, low shipping costs, quick installation and simple maintenance. The system only consists of two main parts: one is vertical solar panel modular, the other is lamp head part including street light, built in lithium phosphate battery, built in solar controller and integrated microwave sensor.

It adopts Philips 3030 led chip with 240 lm/W luminous efficiency which can increase the brightness by more than 50%, low temperature powerful lithium iron phosphate battery which can discharge at -25°C reliably, MPPT intelligent solar controller with IPT, and monosilicon solar panels with 23%-24% conversion efficiency.



super brightness



MPPT intelligent solar controller



microwave sensor



Li-battery management system



2.4G remote operation



Li-battery monitor system

# Trismart Lighting

## Philips

super brightness 5050 led chip



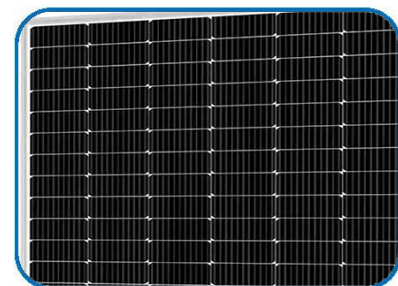
### Super brightness Philips 3030 led chip

- **luminous efficiency for led chip: 240 lm/W**
- **light efficacy for luminaire: 200 lm/W**
- **meet the requirement of dark sky**
- The thermal resistance is only 3°C which the heat output is 20% of the rated value and its average service life is up to 100000 hours.
- It can reduce and save more than 30% power of luminaire to reach the same luminance and illumination effect.
- no blue light hazard



### High efficiency mono solar panel

- high efficiency mono solar wafers
- solar conversion efficiency: 23%~24%
- wafer specification: 182\*182 mm
- lifespan: ≥25 years
- Average attenuation speed: 0.6%
- 25 years maximum output power attenuation: 15%



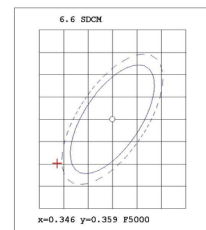
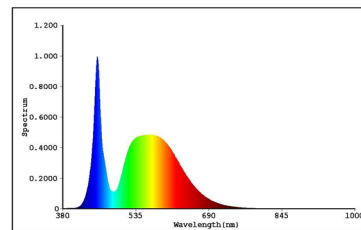
EVERFINE 远方

Test report

EVERFINE LEDspec Test Report

4 Of 4

### Spectrum Test Report



### Color Parameters:

Chromaticity Coordinate(2Deg): $x=0.3347$   $y=0.3492/u'=0.2053$   $v'=0.4819$   $duv=3.134e-003$   
Tc=5410K Dominant WL:Ld=558.0nm Purity=5.2%

Ratio:R=14.0% G=82.2% B=3.8% Peak WL:Lp=453.1nm HML:17.2nm  
Render Index:Ra=75.9

R1 =73.76	R2 =81.05	R3 =84.21	R4 =75.46	R5 =73.73
R6 =72.76	R7 =84.81	R8 =61.67	R9 =-15.45	R10=52.76
R11=71.59	R12=42.32	R13=75.35	R14=90.99	R15=69.42

TM30 Parameters: Rf = 74.3, Rg:93.3

### Photo Parameters:

Flux = 50.96 lm Eff. : 241.29 lm/W Fe = 153.5 mW

### Electrical parameters:

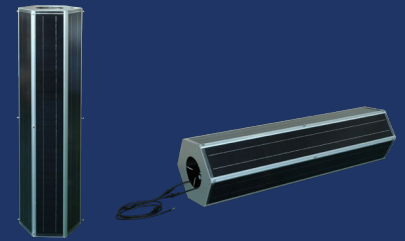
VF = 5.294 V IF = 39.90 mA P = 211.2 mW Ch1  
LEVEL:\*\*[OUT] WHITE:ANSI\_5700K

Status: T=201.00ms Ip=26653 (41%) [ HAAS1200\_V1\_USB ] V2.00.288



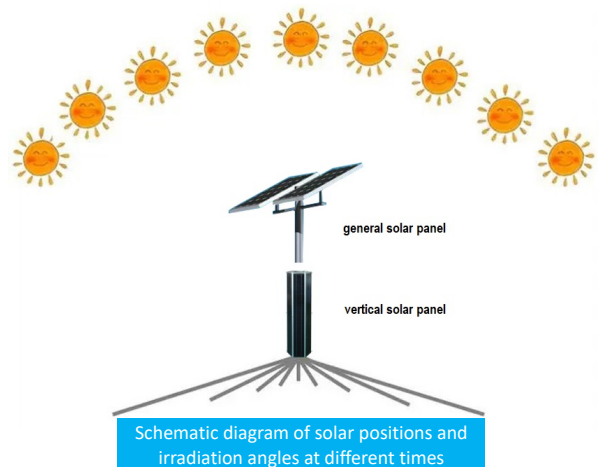
# Trismart Lighting

## Vertical solar panel modular

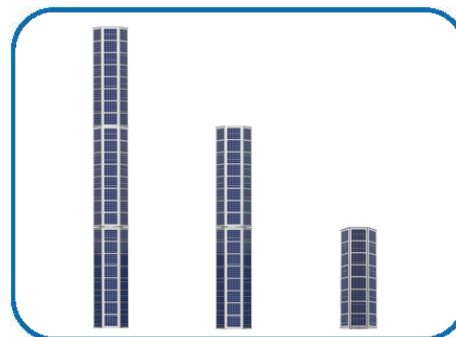


### Hexagon vertical mono solar panel from Taiwan

- It has obtained the patent authorization from the State Intellectual Property Office in China.  
**Patent No.: ZL 2021 2 0422526.4**
- Solar conversion efficiency: 23%~24%
- Retrofit the old lights without replacing the poles.
- 6 slim solar panels are fixed tightly on a hexagon frame so that it ensures 50% of solar panels will face to sunshine at any time of the day.
- The vertical solar cylinder adopts whole modular design concept for easy installation. No welding and assembly of solar panels at the installation site is required.
- Resistance to hail and typhoon
- It can reduce sand accumulation on surface and is especially suitable for sandy areas.
- It can reduce snow falling on solar panel in winter and offer more energy.
- Easy to clean and reduce the maintenance cost
- **Light weight and short length(no less than 1.2m) for lower international transportation costs.**



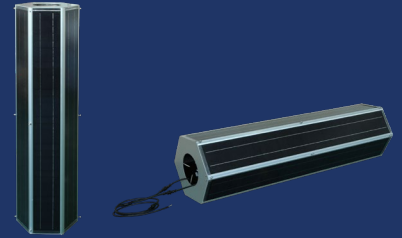
physical photo of vertical solar panel modular



model picture of vertical solar panel modular

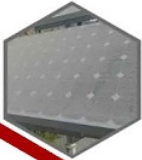
# Trismart Lighting

## Vertical solar panel modular



### 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.

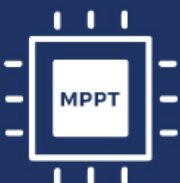


### Easy access for cleaning and maintenance

- 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.



super brightness



MPPT intelligent solar controller



microwave sensor



Li-battery management system



2.4G remote operation



Li-battery monitor system

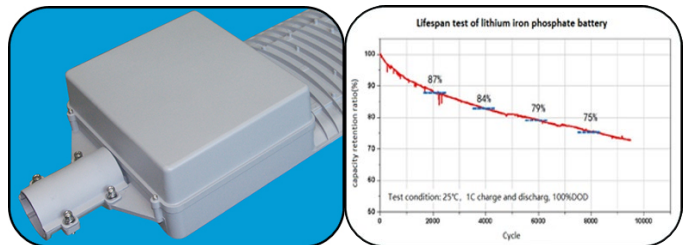
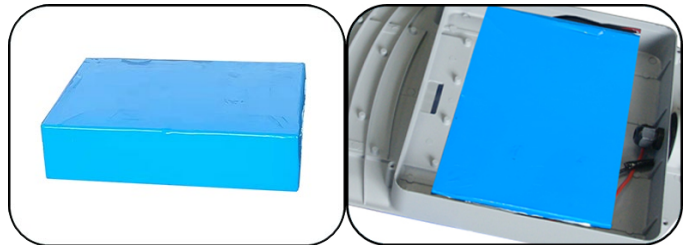
# Trismart Lighting

## Low temperature powerful lithium iron phosphate battery(-25°C)



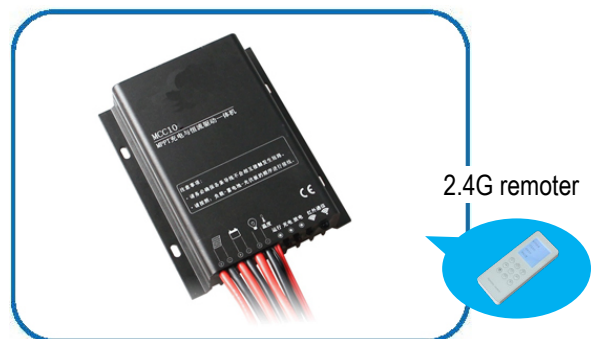
### Low temperature powerful lithium iron phosphate battery

- Adopt low temperature powerful lithium iron phosphate battery which can discharge at -25°C reliably.
- Cycle life: ≥3000 cycles for more than 8 years' lifespan
- Cell capacity: 6000mAh
- Less than 3mΩ internal resistance can reduce internal energy loss and offer higher current discharge.
- High temperature discharge efficiency: ≥95%
- Low temperature discharge efficiency: ≥70%
- free of cobalt and other heavy metals
- no fire, no explosion, absolutely safe and reliable
- **Large battery cavity, battery pack built in the lamp head, beautiful coordination and easy maintenance.**



### Intelligent solar controller

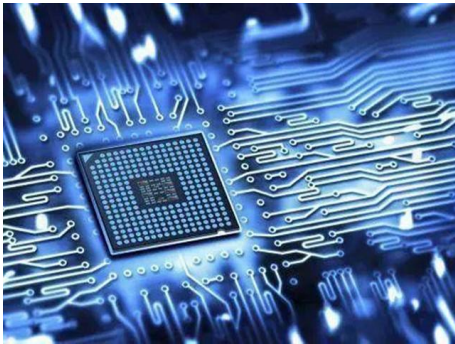
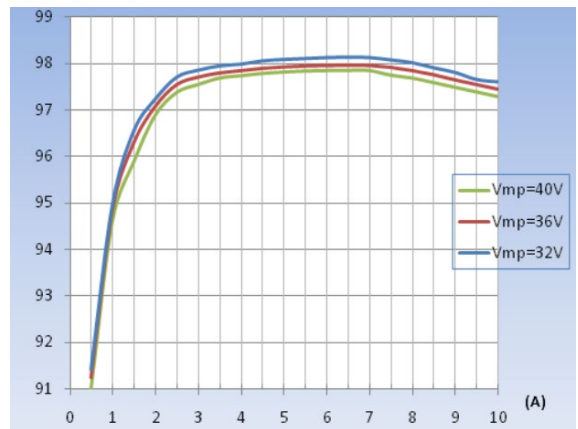
- Adopting MPPT technology to track the maximum power of solar panel
- MPPT efficiency: ≥99.9%
- Charge conversion efficiency: ≥98.5% (MPPT)
- Constant current drive efficiency: ≥96% (MPPT)
- IPT(intelligent power technology) can adjust the optimal power according to the weather conditions of the next 7 days and the remaining energy of the battery pack to ensure 365 days' lighting every day.
- Control mode: light control, time control, induction control
- 2.4G remoter optional
- **Solar controller is built in the shell of lamp.**



# Trismart Lighting

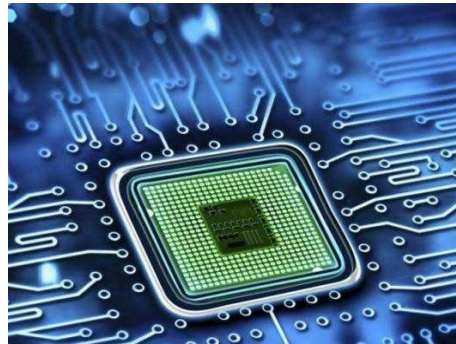
## MPPT

intelligent solar controller



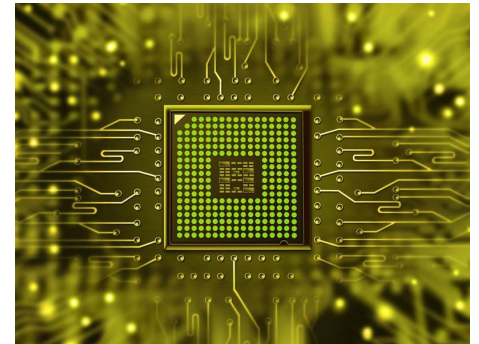
### Intelligent power technology

According to the weather conditions of the next 7 days and the remaining energy of the battery, the power of the light can be adjusted to the optimal value through automatic calculation and scientific evaluation under the premise of ensuring the illumination to meet lighting for 365 days and extend cycle life of battery.



### Single Monitoring and balanced charging Technology :

Through monitoring the voltage and current of the single cell in real time and optimizing the calculation, solar controller outputs the optimal charging voltage and current to reach the balanced charging for each cell which will prolong lifespan of battery.

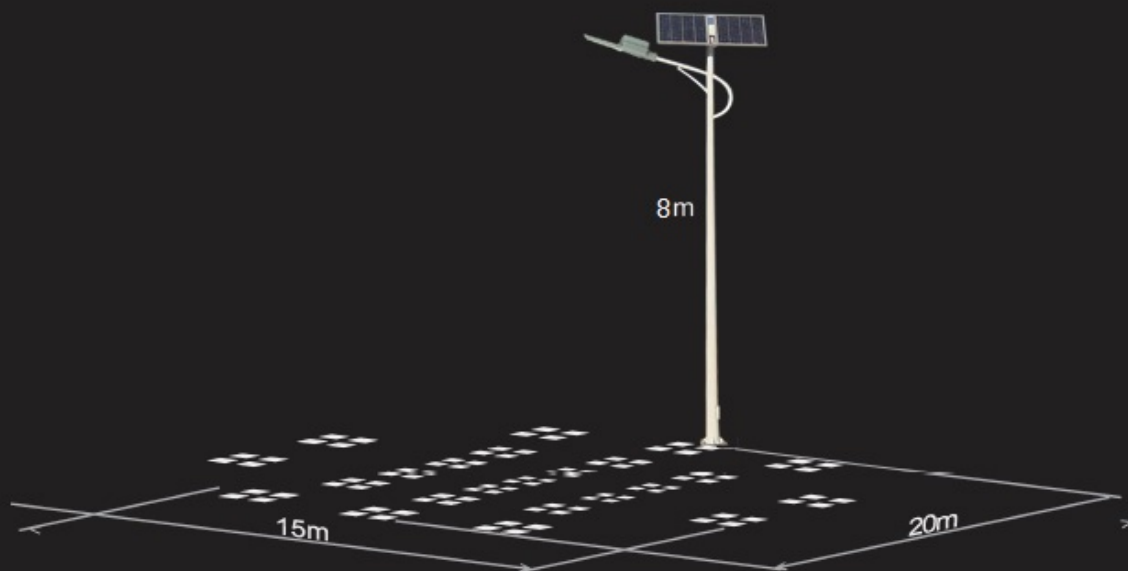


### Automatic alarm technology:

Collecting the output voltage and current of solar panel, the voltage and current of battery and led modular in real time by intelligent chip, the working state of each part is detected and judged, and the fault alarm occurs automatically. Through different indicator lights, it is convenient for maintenance personnel to judge the problem intuitively and quickly.

# Microwave sensor

Microwave sensors *detect* the human body motion by emitting high-frequency radio waves. When human motion is detected, the microwave sensor is triggered and the lamp becomes 100% brightness. When the human body has left the lamp, the microwave sensor closes the trigger and the lamp becomes weak light, which can extend the lighting time.



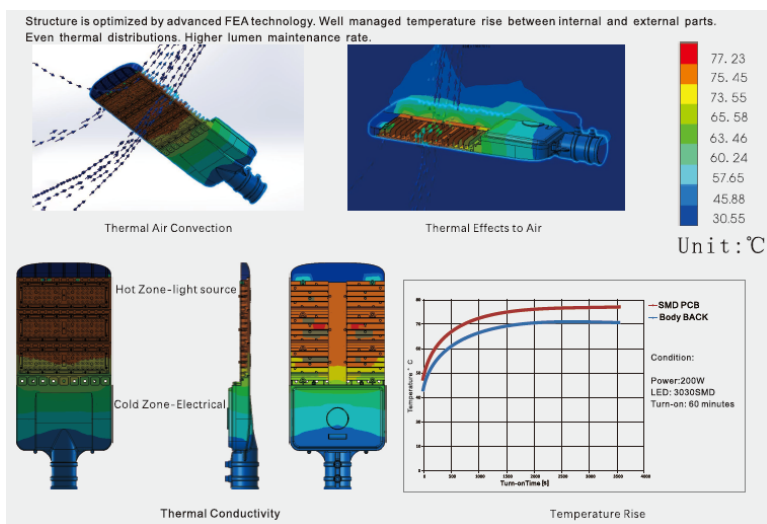
only for reference

# Trismart Lighting

## Thermal management

### Patent modular splicing design

- Using high thermal conductivity aviation aluminum alloy material and formed by precision die-casting, the heat dissipation speed is fast.
- Finite element analysis technology is used to optimize the heat dissipation structure design and control Temperature rise of each component of the lamp



## Technical parameters:

Parameter items	50W	65W	80W	100W	2*80W	2*100W
Brand of led chip	Philips	Philips	Philips	Philips	Philips	Philips
Luminous efficiency for led chip	240 lm/W	240 lm/W	240 lm/W	240 lm/W	240 lm/W	240 lm/W
Total luminous flux	12000±5% lm	15600±5% lm	19200±5% lm	24000±5% lm	2*19200±5% lm	2*24000±5% lm
Light efficacy for luminaire	200 lm/W	200 lm/W	200 lm/W	200 lm/W	200 lm/W	200 lm/W
Beam angle	145°*70°	145°*70°	145°*70°	145°*70°	145°*70°	145°*70°
Correlated color temperature	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K
Color rendering index	≥75Ra	≥75Ra	≥75Ra	≥75Ra	≥75Ra	≥75Ra
Led lifespan	100000 hrs	100000 hrs	100000 hrs	100000 hrs	100000 hrs	100000 hrs
Type of battery	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery
Capacity of battery	380Wh	530Wh	670Wh	790Wh	2*670Wh	2*790Wh
Lifespan of battery	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle
Charging time	6-7 hrs	6-7 hrs	6-7 hrs	6-7 hrs	6-7 hrs	6-7 hrs
Continuous rainy days	3 days	3 days	3 days	3 days	3 days	3 days
Adjustable tilt	/	/	/	/	/	/
Power of vertical mono solar panel	1*150W	1*200W	2*150W	2*150W	3*200W	3*200W
Material of shell	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Discharging temperature	-25~+60°C	-25~+60°C	-25~+60°C	-25~+60°C	-25~+60°C	-25~+60°C
Charging temperature	-10~+55°C	-10~+55°C	-10~+55°C	-10~+55°C	-10~+55°C	-10~+55°C
IP protection	IP66	IP66	IP66	IP66	IP66	IP66
Lamp dimension	550*250*100 mm	710*265*100 mm	710*265*100 mm	710*265*100 mm	710*265*100 mm	710*265*100 mm
Lamp weight	4.6 Kg	6.0 Kg	6.6 Kg	7.2 Kg	2*6.6 Kg	2*7.2 Kg
Diameter of mounting pipe	φ60 mm	φ60 mm	φ60 mm	φ60 mm	φ60 mm	φ60 mm
Recommended mounting height	6-7 m	7-8 m	8-9 m	9-10 m	10-11 m	11-12 m

**Note:** Please select the model of lamp according to the recommended mounting height.



## 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

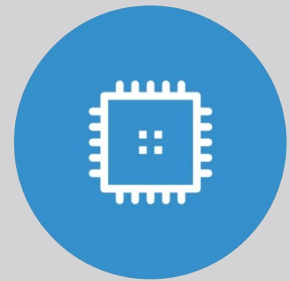
speciality builds higher quality



energy-saving



quality



intelligent

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**Website:** [www.sztrismart.com](http://www.sztrismart.com)

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