Trismart Lighting
speciality builds higher quality

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

super brightness

MPPT solar controller

power LFP battery

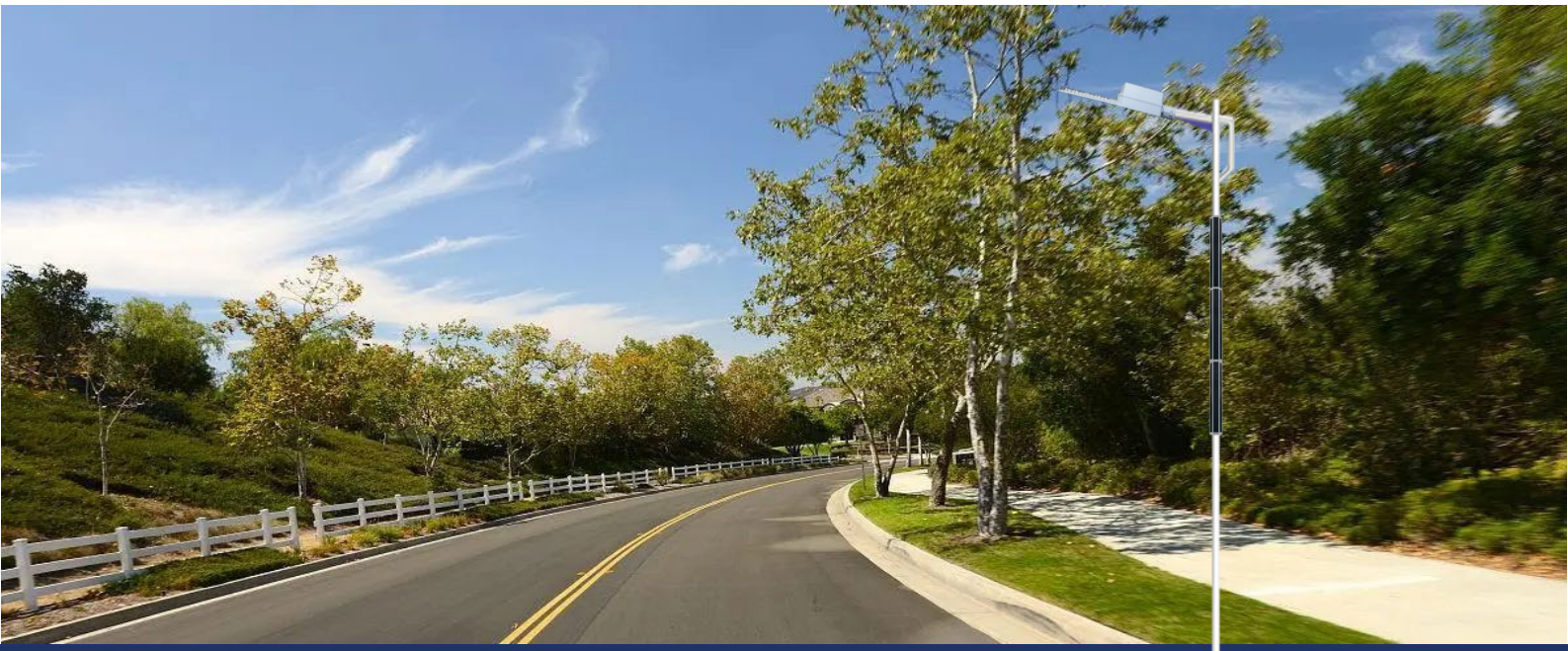
microwave sensor

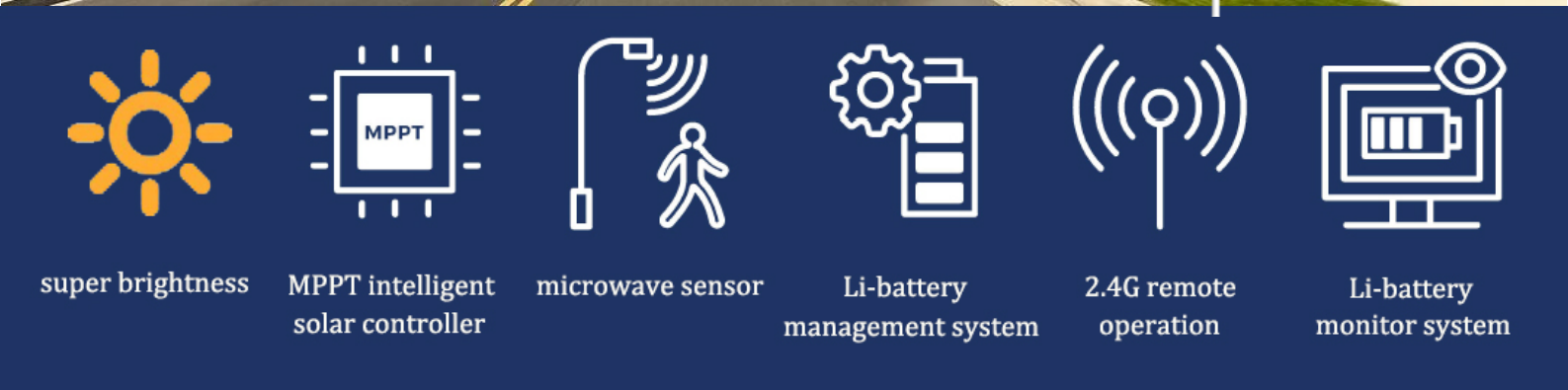
battery integrated

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 230 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℃ reliably, MPPT intelligent solar controller with IPT, and monosilicon solar panels with 23%-24% conversion efficiency.





Trismart Lighting

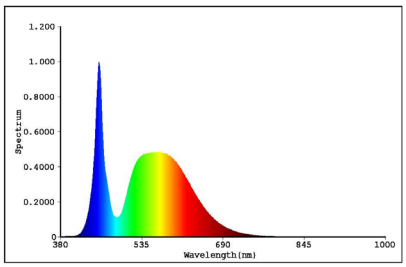
Philips

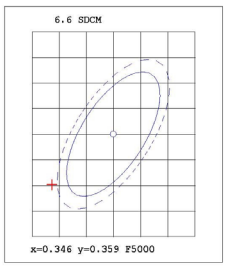
super brightness 5050 led chip

Super brightness Philips 3030 led chip

- ***luminous efficiency of led chip：230 lm/W***
- ***light efficiency of luminaire：≥190 lm/W***
- ***meet the requirement of dark sky***
- The thermal resistance is only 3℃ 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

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 HWL: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 = 49.14 lm Eff. : 225.42 lm/W Fe = 142.0 mW

Electrical parameters:

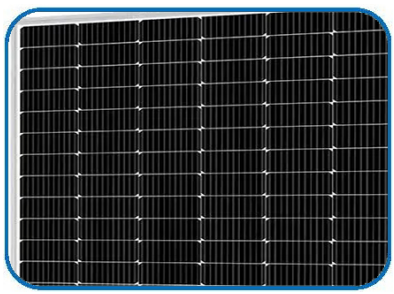
VF = 5.466 V IF = 39.90 mA P = 218.0 mW Ch1

LEVEL:**[OUT] WHITE:ANSI_5700K

Status: T=201.00ms Ip=26653 (41%) [HAAS1200_V1_USB] V2.00.288

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%



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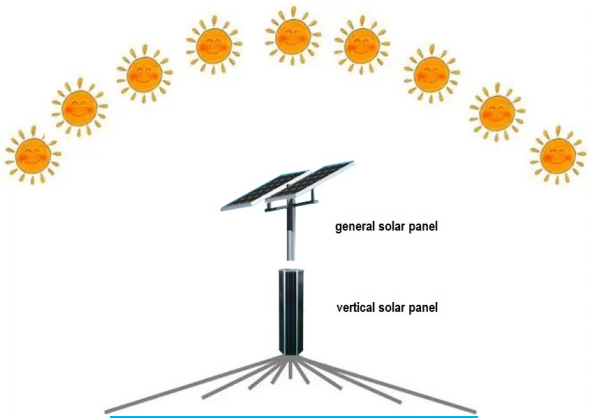
Vertical
solar panel modular

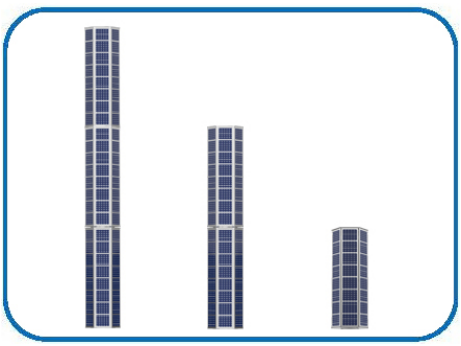
Hexagon vertical mono solar panel from Taiwan

- It has obtained the patent authorization from the State Intellectual Property Office in China.
  Patent No.: ZL 2021 2 0422526.4
- Solar conversion efficiency：21%～22%
- 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.***



Schematic diagram of solar positions and irradiation angles at different times

physical photo of vertical solar panel modular



model picture of vertical solar panel modular

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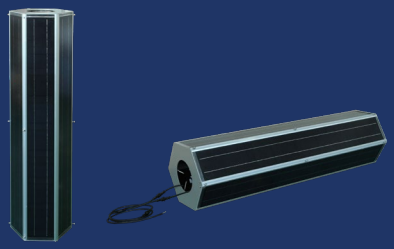
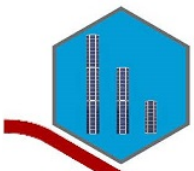
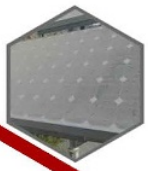
Vertical
solar panel modular





Dodular 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

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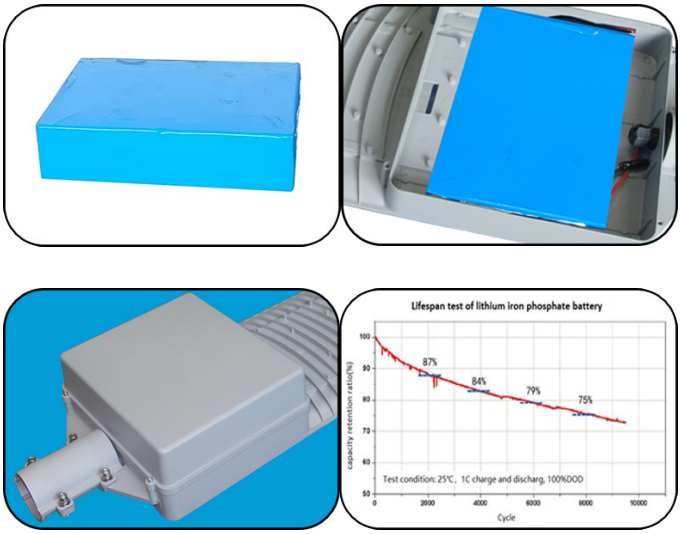
Low temperature powerful
lithium iron phosphate battery(-25℃)

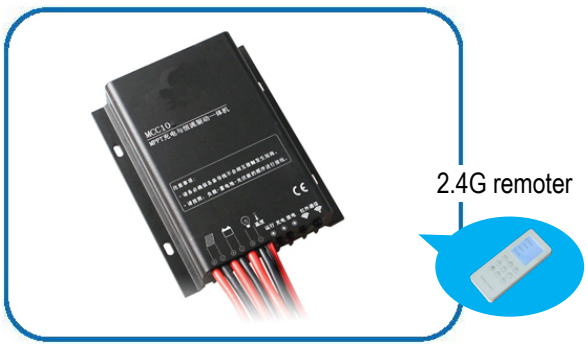
Low temperature powerful lithium iron phosphate battery

- Adopt low temperature powerful lithium iron phosphate battery which can discharge at -25℃ 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.***



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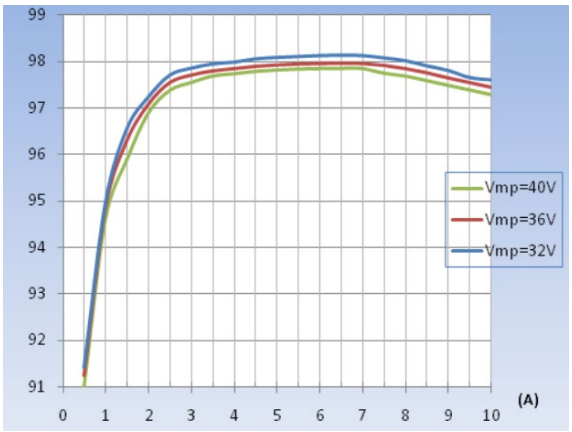
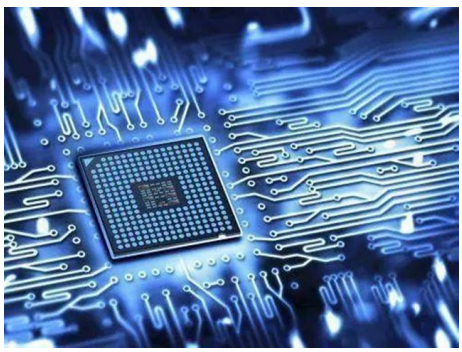
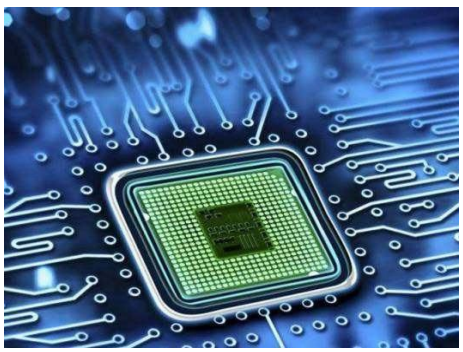
MPPT
intelligent solar controller





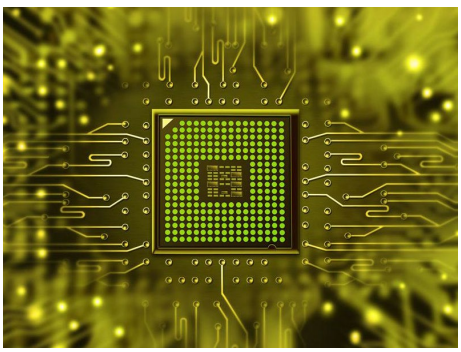
Intelligent power technology

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.

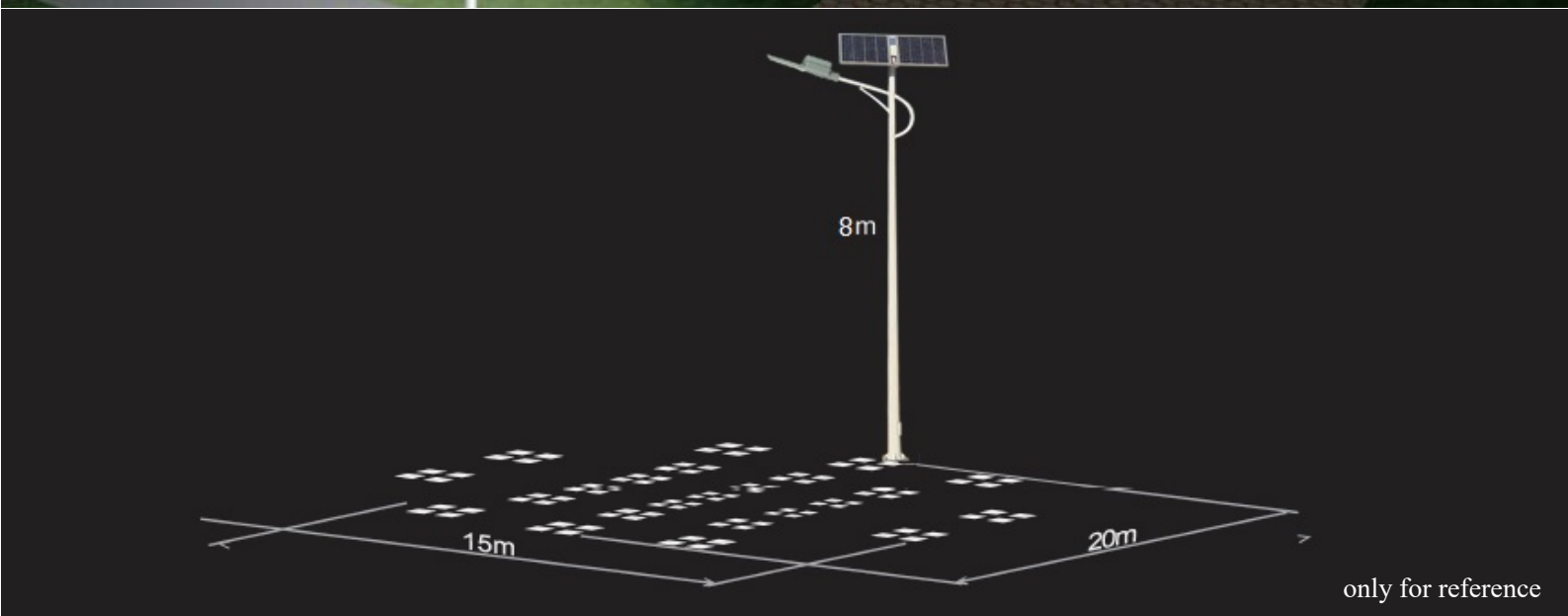


Automatic alarm technology：

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 t 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

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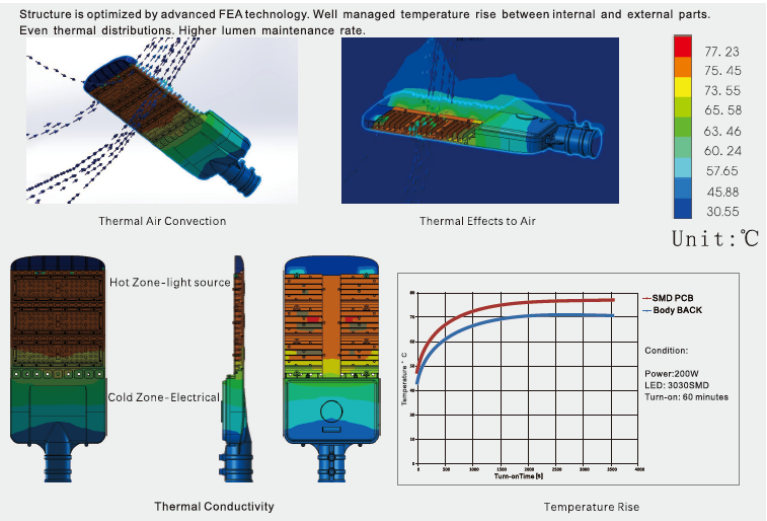
Thermal management

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



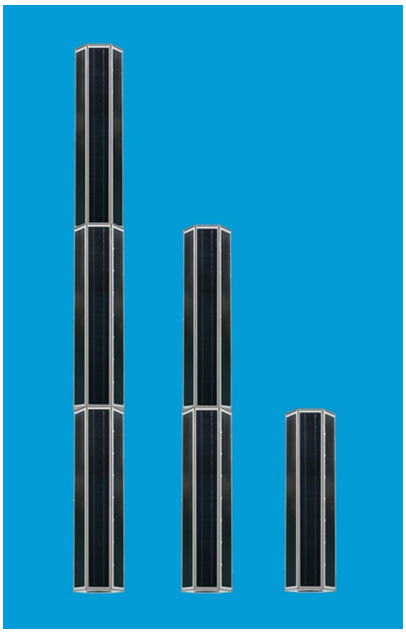
Technical parameters:

Parameter items	30W	45W	60W	75W	85W	2*75W	2*85W
Brand of led chip	Philips	Philips	Philips	Philips	Philips	Philips	Philips
Luminous efficiency for led（lm/W）	230	230	230	230	230	230	230
Luminaire luminous flux（lm）	6900±5%	10350±5%	13500±5% lm	17200±5% lm	19500±5% lm	2*17200±5% lm	2*19500±5% lm
Light efficiency of luminaire（lm/W）	≥190	≥190	≥190	≥190	≥190	≥190	≥190
Beam angle	145°*70°	145°*70°	145°*70°	145°*70°	145°*70°	145°*70°	145°*70°
Correlated color temperature（K）	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K
Color rendering index（Ra）	75Ra	75Ra	75Ra	75Ra	75Ra	75Ra	75Ra
LED lifespan（h）	100000 hrs	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	LiFePO4 battery
Capacity of battery	260Wh	400Wh	530Wh	660Wh	790Wh	2*660Wh	2*790Wh
Lifespan of battery	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle	≥3000 cycle
Charging time（h）	6-7 hrs	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	3 days
Adjustable tilt	/	/	/	/	/	/	/
Power of vertical mono solar panel	1*100W	1*140W	2*100W	2*140W	2*140W	3*140W	4*140W
Material of shell	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Discharging temperature	-25～+60℃	-25～+60℃	-25～+60℃	-25～+60℃	-25～+60℃	-25～+60℃	-25～+60℃
Charging temperature	-10～+55℃	-10～+55℃	-10～+55℃	-10～+55℃	-10～+55℃	-10～+55℃	-10～+55℃
IP protection	IP66	IP66	IP66	IP66	IP66	IP66	IP66
Lamp dimension	550*250*100	550*250*100	550*250*100	710*265*100	710*265*100	710*265*100	710*265*100
Lamp weight	4.0 Kg	4.6 Kg	5.6 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	φ60 mm
Recommended mounting height	6 m	7 m	8 m	9 m	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 number	100W	140W
Material	Aluminum alloy	
Dimensions	250*222*798mm	290*258*1165mm
Pmax	100W	140W
Vmp	18V	18V
Imp	5.6A	7.8A
Solar panel	mono solar panel	
Solar cell efficiency	23%-24%	
Cable	MC4 0.7 meter	
Working temp.	-30℃ ~ +70℃	
Lifespan	25 years	
NW/GW	11.3Kg / 12.5Kg	14.8Kg / 16.5Kg
Post diameter	65-150 mm	
IP protection	IP66	
Warranty	5 years	

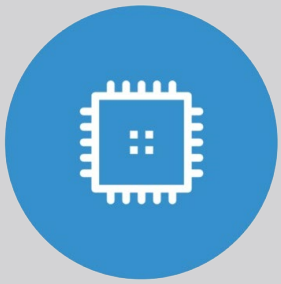


Trismart Lighting

speciality builds higher quality

energy-saving

quality



intelligent

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