

# All-in-one solar led garden light with dark sky



- Led chip: high brightness 3030 led chip, 230lm/W, 3000-6000K
- High efficiency mono solar wafer, 23% conversion efficiency and less than 0.6% per year of average attenuation speed
- lithium iron phosphate battery:  $\geq 3000$  cycle lifespan( $\geq 8$  years)
- PWM solar control with more than 90% conversion efficiency
- PIR sensor for energy saving
- continuous rainy days: 2-3 days
- die-casting aluminum housing
- Meet the requirement of dark sky

## Product features and descriptions:

### High brightness 3030 led chip

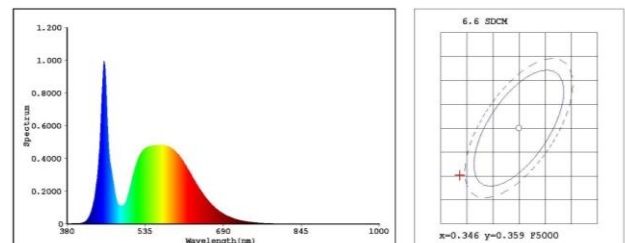
- luminous efficiency of led chip: **230 lm/W**
- light efficacy of luminaire: **180 lm/W**
- meet the requirement of dark sky
- The thermal resistance is only  $3^{\circ}\text{C}$  which the heat output is 20% of the rated value and its average service life is up to 100000 hours.
- It can reduce and save more than 30% power of luminaire to reach the same luminance and illumination effect.
- no blue light hazard



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Test report  
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### 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 = 50.96 lm Eff. : 241.29 lm/W  $P_e = 153.5$  mW

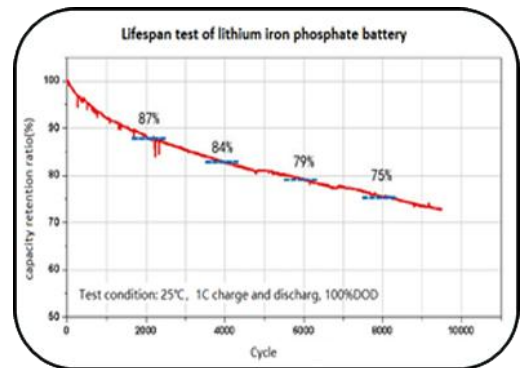
### Electrical parameters:

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

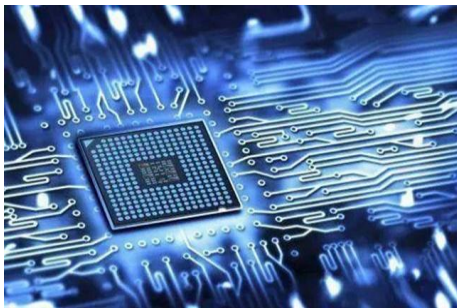
### Low temperature powerful lithium iron phosphate battery

- Adopt low temperature powerful lithium iron phosphate battery which can discharge at  $-25^{\circ}\text{C}$  reliably.
- Cycle life:  $\geq 3000$  cycles for more than 8 years' lifespan
- **capacity of grade A new cell (32700):  $\geq 6000\text{mAh}$**
- Less than  $3\text{m}\Omega$  internal resistance can reduce internal energy loss and offer higher current discharge.
- High temperature discharge efficiency:  $\geq 95\%$
- Low temperature discharge efficiency:  $\geq 70\%$
- free of cobalt and other heavy metals
- no fire, no explosion, absolutely safe and reliable



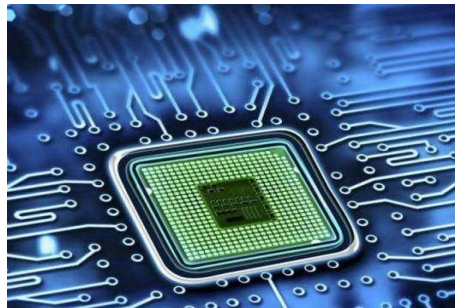
### PWM intelligent solar controller

- Maximum conversion efficiency:  $\geq 90\%$
- Temperature control: the upper and lower temperature limits for charging and discharging lithium batteries can be set
- Dual seasons management: automatic power conversion in summer and winter
- 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.
- Protection function: With protection against overvoltage, overheating, overpower, open circuit, short circuit, reverse connection, etc
- Control mode: light control, time control, sensor control
- 2.4G remoter optional



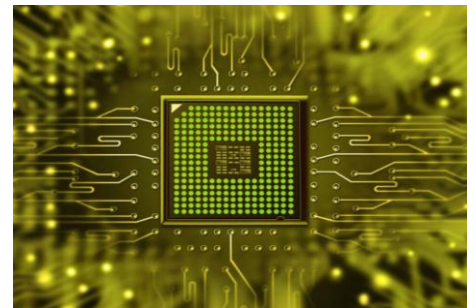
#### Intelligent power technology:

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.

### High efficiency monocrystalline silicon solar panel:



- high efficiency mono solar wafers
- solar conversion efficiency: 23%
- lifespan:  $\geq 25$  years
- Average attenuation speed per year: 0.6%
- 25 years maximum output power attenuation: 15%
- IP66

## Product pictures and details:



## Main technical parameters:

| Model & power                         | SZG576-15W             | SZG576-20W             |
|---------------------------------------|------------------------|------------------------|
| Luminous efficacy for led chip (lm/W) | 230                    | 230                    |
| Light efficacy for luminaire (lm/W)   | 180                    | 180                    |
| Energy efficiency rating              | Class 1                | Class 1                |
| Energy saving rate                    | 45%                    | 45%                    |
| Luminous flux of luminaire (lm)       | 2700±5%                | 3600±5%                |
| Correlated color temperature (K)      | 3000-6000K             | 3000-6000K             |
| Color rendering index (Ra)            | ≥75Ra                  | ≥75Ra                  |
| Lifespan of led chip (h)              | ≥100000                | ≥100000                |
| Type of solar battery                 | lithium iron phosphate | lithium iron phosphate |
| Capacity of battery (Wh)              | 110                    | 160                    |
| Lifespan of battery (cycle)           | ≥3000                  | ≥3000                  |
| Mono solar panel (W)                  | 27                     | 33                     |
| Dark sky requirement                  | yes                    | yes                    |
| Charging time (h)                     | 6-7                    | 6-7                    |
| Continuous rainy day (day)            | 2-3                    | 2-3                    |
| Motion sensor                         | PIR sensor             | PIR sensor             |
| Material of shell                     | Die-casting aluminum   | Die-casting aluminum   |
| Discharge temperature (°C)            | -25°C - +60°C          | -25°C - +60°C          |
| Charging temperature (°C)             | -10°C - +55°C          | -10°C - +55°C          |
| IP protection                         | IP65                   | IP65                   |
| Dimensions (mm)                       | φ540*340               | φ540*340               |
| Weight (Kg)                           | 5.5 Kg                 | 6.0 Kg                 |
| Diameter of installation pipe (mm)    | Φ60                    | Φ60                    |
| Recommend mounting height (m)         | 4-5                    | 5-6                    |
| Warranty (year)                       | 5 years                | 5 years                |

**Note:** 1. According to GB 30255-2026: the luminous efficacy of Class 1 energy-efficient luminaire is 170-180 lm/W; for Class 2, it is 145-155 lm/W; and for Class 3, it is 100-110 lm/W.

2. Energy saving rate is compared with the conventional luminaire of class 3 energy efficiency rating.