ZIYUM Solar Street Lighting Solution

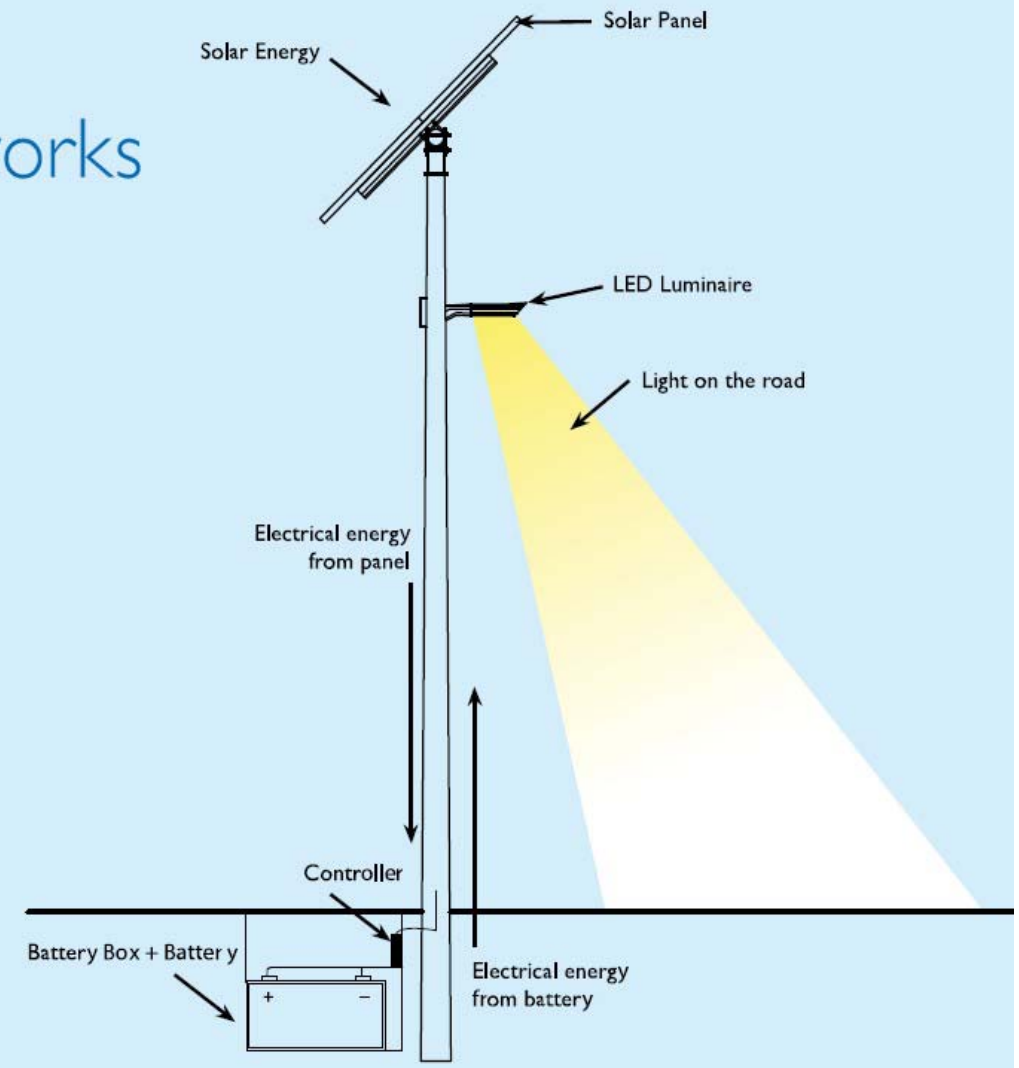
Better the City Better the Life by Solar Lighting

ZIYUM Solar powered street light with off-grid lighting systems is reliable, renewable and remarkable way to light outdoor area. To save energy, enhance security, improve commerce or create visibility, solar powered lighting is an economic and environmental choice for the street lighting, farm, parking lot, roadway, path, academic campus, retail or corporate complex, rural area, billboard, sign, pavilion, bus stop, etc

Solar lights are a visible statement of your commitment to the environment. With advanced LED lighting, optics and intelligent controls, solar lights can replace the traditional street lights perfectly. The trend of solar lighting is getting more and more populated in most of countries, especially in Africa and Mid East countries where is in rich of solar resource...with patented, technologically advanced and environmentally friendly product, our solar lights had been installed in more and more countries.

How the solar system works

When the sun shines during the day, the solar panel converts solar energy to electrical energy and stores it in the battery. During the night, the battery is discharged, releasing electrical energy to power the LED luminaire – hence lighting the road.



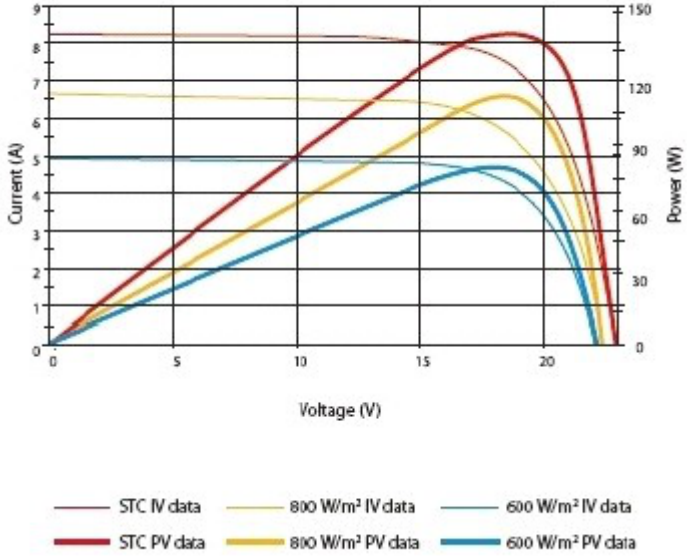
- Solar Cell: High efficiency solar cells ensure high performance of solar module and create maximum power output.
- Low Iron Tempered Glass: Anti-reflecting coating and high transmission rate glass increase the power output and mechanical strength of solar module.
- Aluminum Frame: Without screw, corner connection. 10 holes on the frame can be installed easily.
- Superior Junction Box: Multi function junction box with water proof capabilities.
- Long Lifespan: >= 25 years.
- Tolerance: +/-3%.
- Good performance of preventing from atrocious weather such as wind and hails.
- Resisting moisture and etching effectively, not effect by geology.
- The certificate issued by international authority: CE, TUV, IEC.

SOLAR PANEL TECH DATA

◆ Current temperature coefficients: 0.06±0.01%/K
◆ Voltage temperature coefficients: -(155±10)mV/K
◆ Power temperature coefficients: -(0.5±0.05)%/K

◆ Max System Voltage: 1000V DC
◆ Operating Temperature: -40°C~+85°C
◆ Noct(DEGC): 45°C±3°C

Module IV Graph 110W



SOLAR

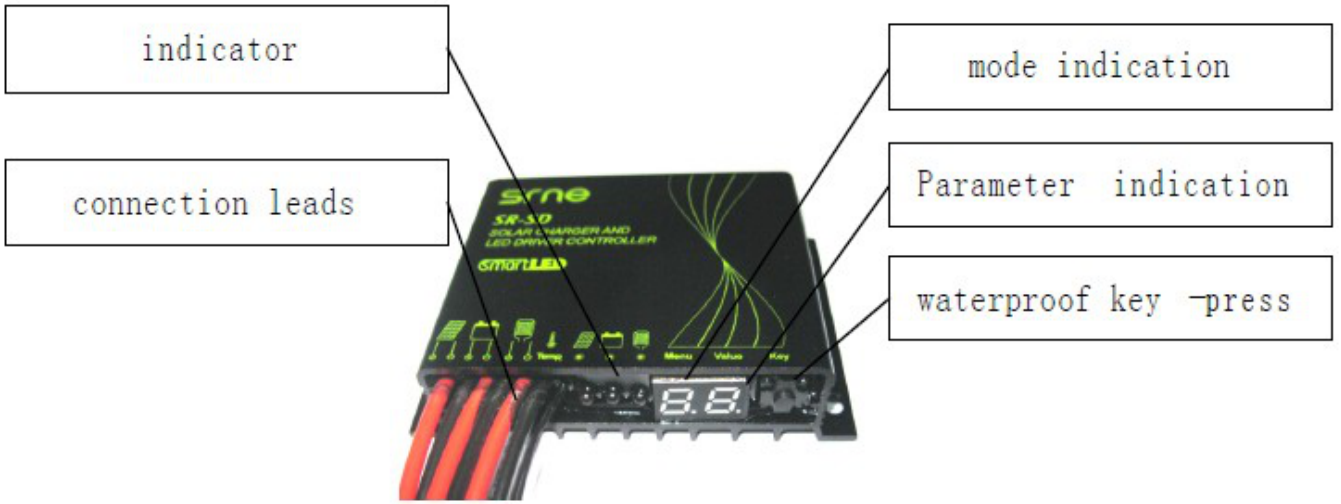
INTELLIGENT

CONTROLLER

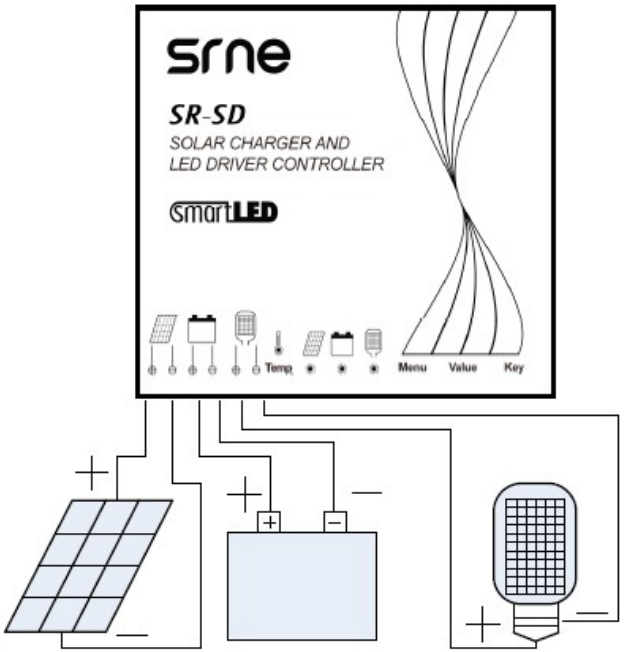
Ⅰ. Main features

1. LED constant current source is internally installed and its efficiency can reach 96%.
2. With intelligent four phases PWM digital dimming, the capacity control is much more accurate and the performance of color temperature is perfected.
3. Outstanding ripple current control and degree of linearity control utmost lessening the LED light decline and increase LED life span.
4. Ceramic capacitor design extends the service life.
5. IP 68 waterproof level and aluminum outer shell is able to effectively prevent various kinds of corrosion.
6. The output voltage is 70V, which can drive 20 LED lamps installed in series.
7. With modified calculation of charging, the charging efficiency is improved, which lengthen the using time of solar energy.
8. Unique test mode. One key operation realizes the power switching.
9. The metal outer casing design.
10. Varies system protection function.

FUNCTION SHOW



LED1 Display	Mode	LED 2 Display	parameter
1.	Working with 100% power	0 – 4.	Working for 0-14 hours with 100% power
2.	Working with 75% power	0 – 4.	Working for 0-14 hours with 75% power
3.	Working with 50% power	0 – 4.	Working for 0-14 hours with 50% power
4.	Working with 25% power	0 – 4.	Working for 0-14 hours with 25% power
5.	Demo mode	0 – 4	0 load is off 1 load works with 100% power 2 load works with 75% power 3 load works with 50% power 4 load works with 25% power



System voltage	12V/24V Auto
Output current	330mA – 2310mA
No-load loss	5mA/12V; 7mA/24V
Solar input voltage	< 55V
The Max. charging current	10A
Overvoltage protection	17.0V; ×2/24V
Equal charging voltage	14.6V; ×2/24V(25℃), duration:1h
Ascending charging voltage	14.4V; ×2/24V(25℃), duration:2h
Float charging voltage	13.8V; ×2/24V (25℃)
Return voltage during charging	13.2V; ×2/24V (25℃)
Return voltage for over-discharging	12.5V; ×2/24V
Over-discharging voltage	11.1V; ×2/24V
Temperature compensation	-4.0mv/℃/2V;
Light-control voltage	Light-control open 5V; light-control close 6V
Efficiency of constant current	90% - 96%
Current accuracy	+/-2%
Light-control judgment time	10min
The Max. output voltage	<70V
Working temperature	-40℃ to +70℃;
Protection level	IP68
Weight	160g
Dimensions	82×58×20(mm)(L×W×H)

Constant-current discharge parameter Unit: A (25℃)

End Point Vol./Cell	5MIN	10MIN	15MIN	30MIN	1H	3H	5H	10H	20H
1.60V	346	248	194	119	68.6	31.7	20.8	12.8	6.9
1.65V	324	239	193	115	67.6	31.2	20.8	12.5	6.7
1.70V	311	231	185	111	66.7	30.7	20.5	12.2	6.5
1.75V	294	224	177	107	66	30.3	19.8	12.1	6.4
1.80V	285	216	165	105	65.6	30	19.1	12	6.3

Constant-current discharge parameter Unit: W (25℃)

End Point Vol./Cell	5MIN	10MIN	15MIN	30MIN	45MIN	1H	2H	3H	5H
1.60V	606	445	347	225	170.3	139.6	78.8	58.6	39.1
1.65V	587	422	332	218	169.3	135.6	76	56	38.5
1.70V	545	400	329	211	155.4	129.7	73.3	54.5	37.9
1.75V	514	379	318	204	152.5	126.7	71.9	53.6	37
1.80V	488	354	307	197	148.5	122.8	70.1	52.5	36.6

GEL BATTERY CHARACTERISTIC FOR SYSTEM BACKUP AND WORKING

Cyclic use .....14.4~14.9V
Initial current 30A
Temperature Compensation.....-15mV/℃
Float Use 13.6-13.8V
Temperature Compensation .....-20mV/℃

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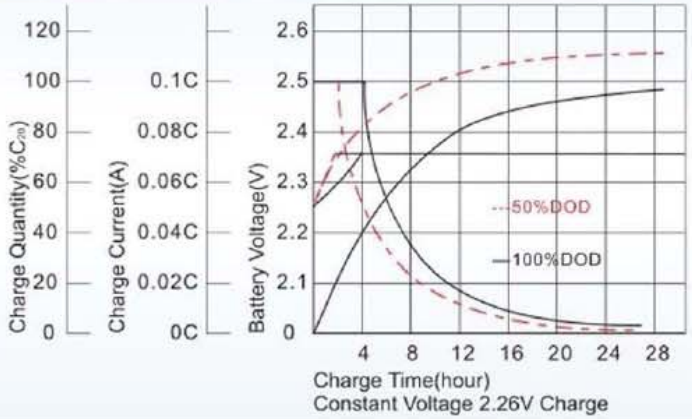
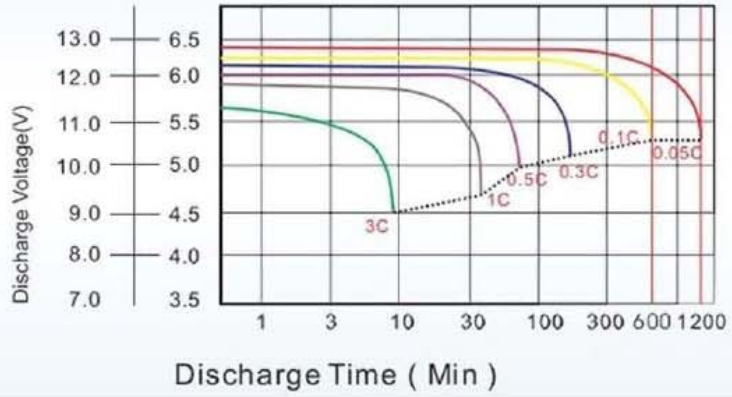
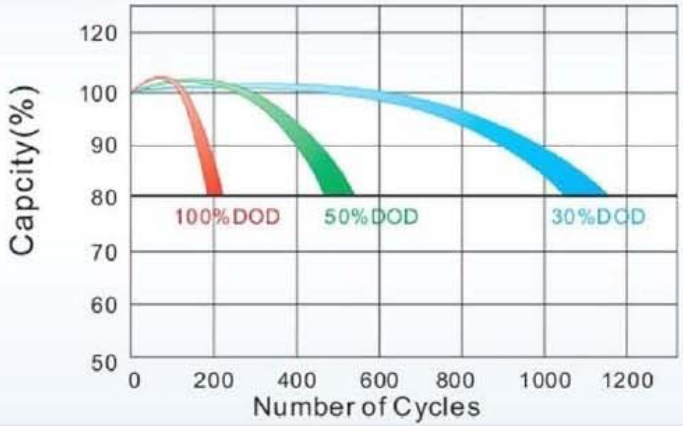
Charge Characteristics for Float Use @ 25°C/77°F



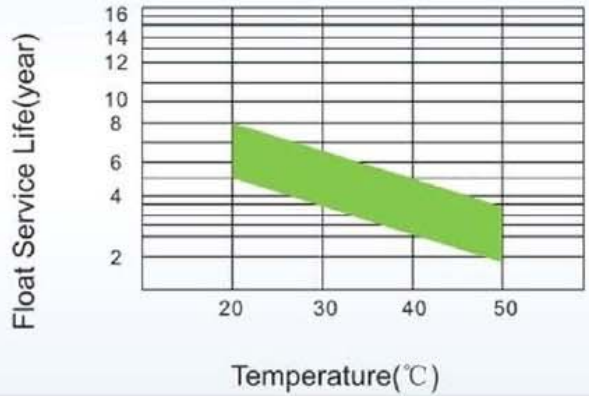
Discharge Characteristics at Various Rates @ 25°C/77°F



Cycle Life in Relation to Depth of Discharge



Float Service Life



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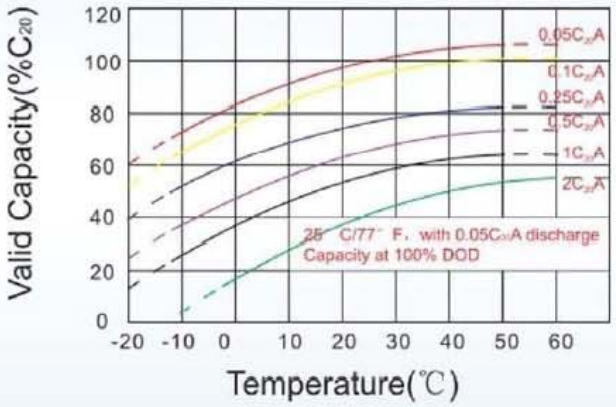
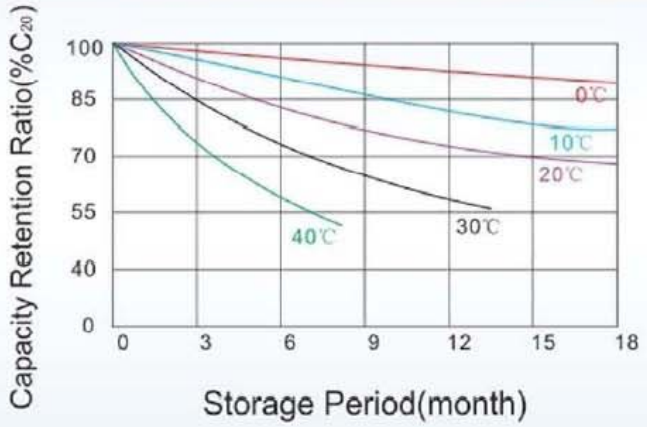
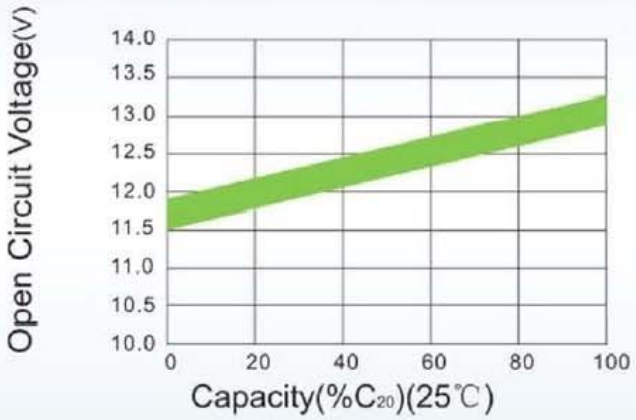
Temperature and Valid Capacity



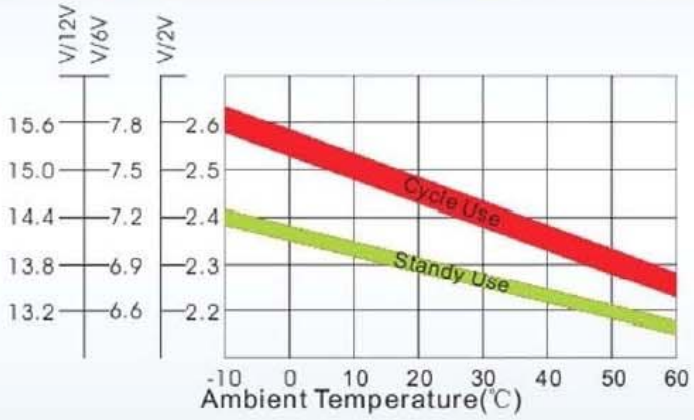
Self Discharge Charecteristics



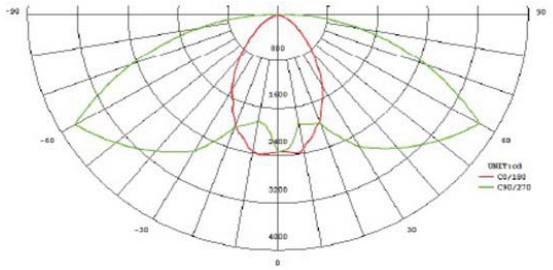
Capacity and Open Circuit Voltage



Relationship between Charging Voltage and Temperature



LED STREET LAMP SAMPLE



- CREE/Bridge lux/Epistar Chip
  LED Luminous Efficiency＞80lm/w
- Suitable for LED/Solar street lighting
- Die casting aluminum ; IP65
- Warm White(3000±300K) / Pure White(6000±500K)

SOLAR STREET LIGHTING APPLICATION SOLUTION

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Solar street lighting ordinary requirement (non standard,only for reference)

Lighting height	Lamp power LED	LED lamp nos	Solar panel (as per single lamp)	Battery for system	Get a quotation
5m-6m	30-50W	Single	80-200Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	Contact us and get new price: christian@zymlit.com
6m-7m	40-70W	Single/double	100-300Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	
7m-8m	50-90W	Single/double	130-380Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	
8m-9m	60-100W	Single/double	160-420Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	
9m-10m	70-100W	Single/double	180-460Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	
10-11m	80-110W	Single/double	200-480Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	
11m-12m	90-120W	Single/double	220-500Wp (according to local solar radiation value)	Ampere /capacity according to lighting hours and backup days required	

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Thanks for reading, any question pls feel free to contact!

By ZIYUM Lighting Equipment Co