ZYTECH®
SOLAR

ZYTECH LED SOLAR STREET LIGHTS

ENERGY SAVING LIGHTING

Solar powered LED street light offer a ´zero running costs´ solution for public and private

INDEX

ZYT ENERGY GROUPS.L.

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SOLAR STREET LIGHT

A new generation
of solar powered systems for street lighting

Solar Street Lighting is becoming more popular by the day as people are becoming more enviromentally conscious.

Zytech Solar Street Lighting basically as a source of power wich can store energy and work by using the energy at night.

Zytech solar Powered Street light basically Works by producing electricity which is conducted via cables and a solar battery charger to the solar batteries placed at the base of the pole.

Zytech Solar Module

All high performance solar panels are made by efficient poly or mono solar cells with a rugger tempered glass face and aluminium frame.

Zytech Solar warranty of a power output of 25 years ensures your lighting system will generate power for decades into the future. The LED street light has god one or two modules depending on the application.

Solar regulator

The solar regulator is desidned according tho the solar street light system. The regulator proyects the battery from being overcharged by the solar panels and being deep discharged by the loads. The charging characteristics include several stages.

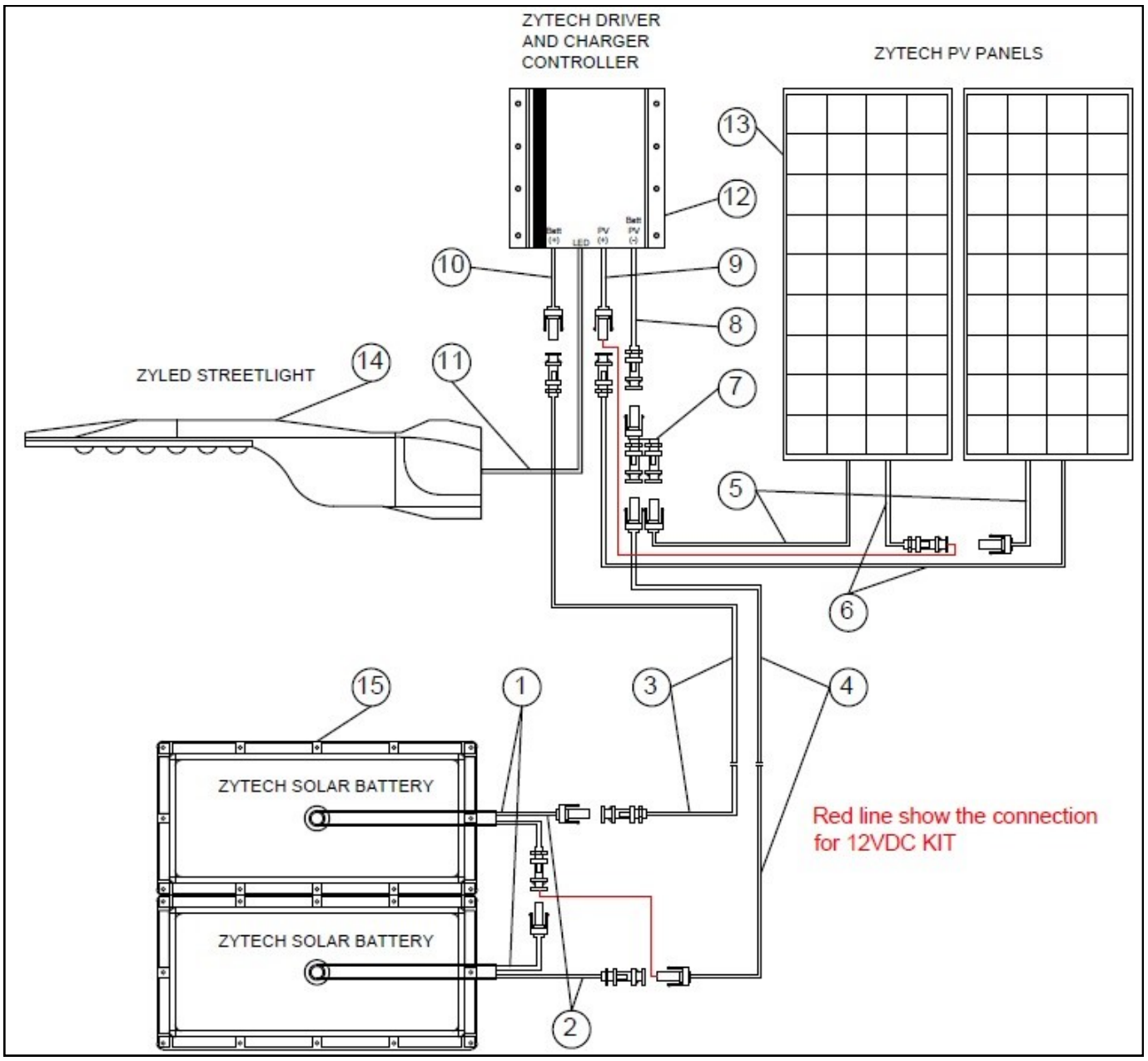
Battery system

The advantageous GEL type batterys allows free operation ofthe solar street light system. And the battery can be fully discharged without damage.

ZYTECH® SOLAR

Zytech LED

KIT CONFIGURATION DIAGRAM



1. Cable Batt (+)
2. Cable Batt (-)
3. Cable Batt (+) extention
4. Cable Batt (-) extention
5. Cable PV (-)
6. Cable PV (+)
7. MC4 2-1 addapter
8. Cable CCD Batt/PV (-)
9. Cable CCD PV (+)
10. Cable CCD Batt (+)
11. Cable LED(+ -)
12. Zytech CCD
13. Zytech PV panels
14. Zyled Streetlight
15. Zytech Battery Box

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ZT Series Monocrystalline

Solar Module

ZT200S

ZYTECH SOLAR

Efficiency

High Module Conversion Efficiencies utilizing one or two bus bars per cell

Warranty

Peace of Mind Guaranteed with a twenty-five Year Linear Power Warranty and Product Quality Ensured for ten years

Certifications

IEC 61215:2005, IEC 61730:2004

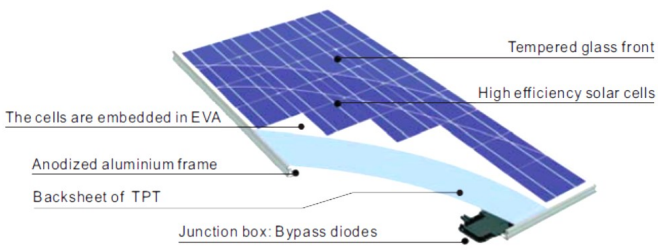
Tolerance

Strict quality control guarantees higher average power output according to tolerance ± 3%.

Optimized Strength

Minimum standard for wind 2700Pa to a Mechanical load capacity up to 5400Pa meet customer's needs for durability on high mountains, sea shores, & paths between buildings

Module Construction



EMPOWERING You

To Change The Future

Zytech was founded in Zaragoza (Spain) in 2005. Since then the group has progressively increased its infrastructure and production capacity to become a global power with offices and headquarters in Spain, Germany, France, Italy, BENELUX, Mexico, United States of America, Korea, Malaysia.

Zytech takes pride in their R&D department which specializes in product enhancement, state-of-the-art machinery and rigorous quality control that guarantees an European quality product at the best price.

ZT Series Monocrystalline

Solar Module

ZT200S

ZYTECH® SOLAR

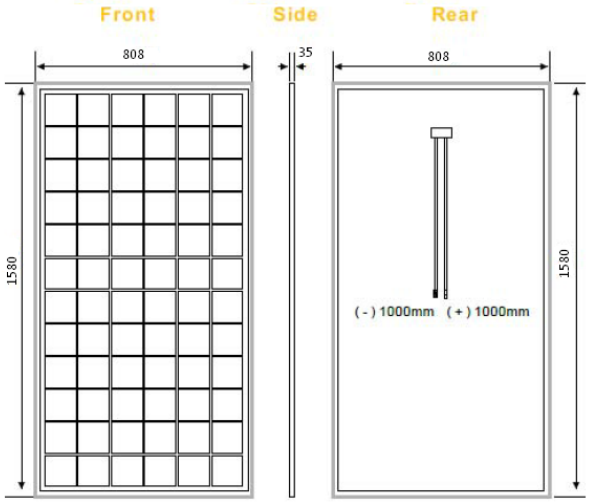
Cell Data	
Technology	Monocrystalline Silicon
Number Per Module	72
Dimension	125 x 125 mm
Orientation	6 × 12

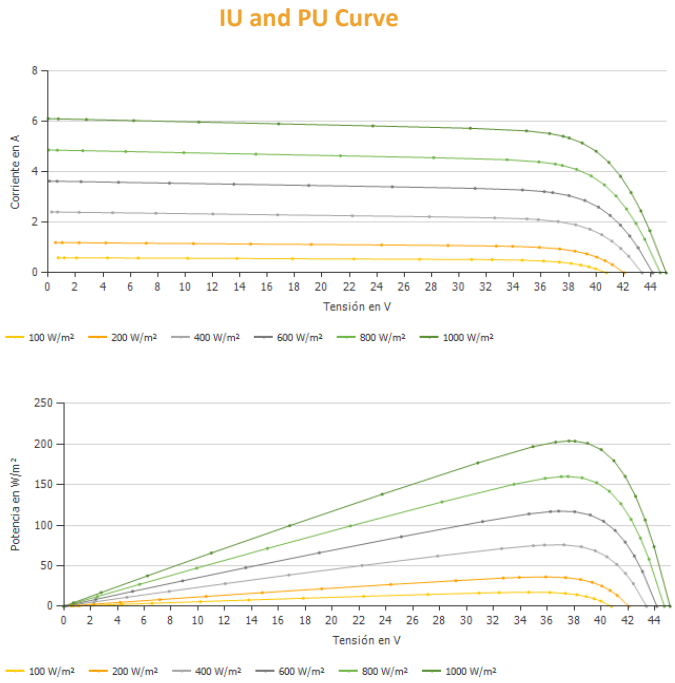
Thermal Data	
Nominal Operating Cell Temperature（NOCT）	45°C ± 2°C
Temperature Coefficient of Voc	-0.34% / °C
Temperature Coefficient of Isc	+0.037 % / °C
Temperature Coefficient of Power Pmax	- 0.48 % / °C

Electrical Data（STC）		ZT 200S
Maximum power（W）	Pmax	200
Power Output Tolerance（%）		-3% to 3%
Maximum Power Voltage（V）	Vmpp	37.77
Maximum Power Current（A）	Impp	5.29
Open Circuit Voltage（V）	Voc	45.25
Short Circuit Current（A）	Isc	5.92
Module Efficiency（%）		18.30%

* At Standard Conditions（STC） Irradiance 1000 watt/m², spectrum AM 1,5 at a cell temperature of 25°C

System Integrated Parameters	
Maximum System Voltage SCII	1000 VDC（UL1000V）
Maximum Reverse Current	Do not apply external voltages larger than Voc to the module
Operating Temperature	-40~+85°C
Max Series Fuse Rating	15A





Physical Characteristics	
Module Dimension（L×W×H）	1580×808×35mm Code: PV30033 - ZT205S
Weight	15 kg
J-Box	IP65 or IP67 rated, 3/6 diodes
Connector	MC4 or MC4 Compatible
Glass	3.2mm（0.13 in）, High Transmission, AR Coated Tempered Glass
Cable	4 mm² PV cable, 1000mm/1200mm
Frame	Silver Anodized Aluminum Alloy

Packing Configuration	
Modules Per Pallet	26
Pallet Per 40＇Container	22（572 pcs）
Packing Box Dimension（L×W×H）	2000×1150×1040 mm
Packing Orientation	Side

Zytech Solar reserves the right to change specifications without notice
*Dimension tolerance: ±5mm per each side

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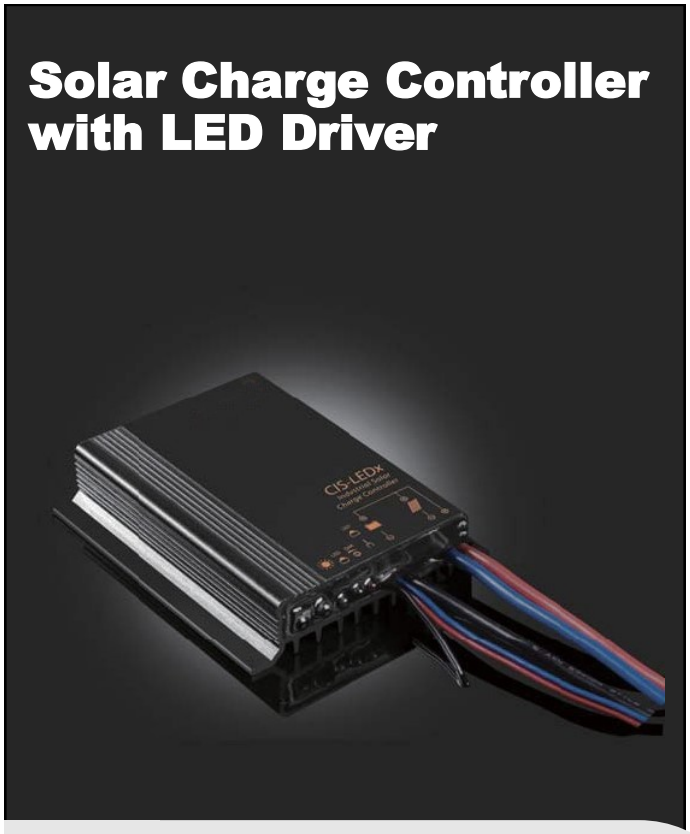
DRIVER CONTROLLER SUB-SYSTEM



Specifications

Specifically developed for rough environments and especially for the requirements of users of solar LED lamps and solar LED street lights: the CIS-LEDx. The highlight of the CIS-LEDx is that it combines three functions in one fully protected case: charge controller + flexible timer + LED-driver.

The current required to power LEDs is directly delivered by the charge controller. Customers get three solutions included in one single product, with many advantages:

The built-in LED driver, timer and charge controller are harmonically combined and protected in one fully encapsulated housing (IP68), increasing system reliability, lifetime and lowering investment costs.

An on/off timer combined with an adjustable dimming function renders flexibility extending operation time and furthermore, saves energy.

The CIS-LEDx also offers an auto-protect function: by means of its two low voltages disconnect levels, the LEDs light will automatically be dimmed when the charge of the battery is getting low. The levels can be programmed by means of remote control CIS-CU.

Functions

Combines three functions in one

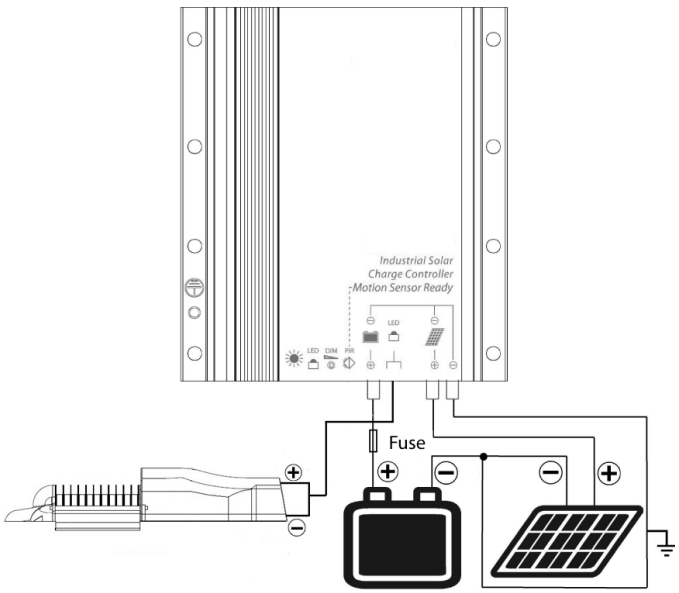
Charge Controller + Flexible Timer + LED-driver

Developed especially for rough environments, solar LED lamps, and solar LED street lights.
Fully protected by the encapsulated case (protection class IP68): increased lifetime and reliability, reduced costs Flexible dimming functions: renders ambient, pleasant light and extends operation time.
Auto-protect function: two voltages disconnects extend system operation time and reliability.

Small size: fits everywhere

True color PWM dimming

Connection diagram



DRIVER CONTROLLER SUB-SYSTEM

Solar Charge Controller with LED Driver		
Type	**CIS-LEDx 1050 mA**	**CIS-LEDx 1400 mA**
System voltage	12/24 V auto recognition	
Max. charge current	10 A	20 A
Float charge	13.8/27.6 V (25 °C)	
Main charge	14.4/28.8 V (25 °C), 30 min. (daily)	
Boost charge	14.4/28.8 V (25 °C), 2 h Activation: battery voltage < 12.3/24.6 V	
Equalization	14.8/29.6 V (25 °C), 2 h Activation: battery voltage < 12.1/24.2 V (at least every 30 days)	
Deep discharge protection Cut-o voltage Reconnect level	11.00 – 12.02/22.00 - 24.04 V by SOC 11 – 11.9/22 - 23.8 V by voltage (adjustable step 0.1/0.2 V) 12.8/25.6 V	
Overvoltage protection	15.5/ 31.0 V	
Undervoltage protection	10.5/21.0 V	
Max. panel voltage (Overvoltage protection by varistor)	50 V	
Temperature compensation (Charge voltage)	-4.2 mV/K per cell	
Max. self consumption	5 – 8 mA	
Grounding	Positive grounding	
Ambient temperature	−40 to +60 °C	
Max. altitude	4,000 m above sea level	
Battery type	Lead acid (GEL, AG ooded)	
Adjustment range: Evening/morning hours timer Night PV panel level detection Day PV panel level detection	0 – 15 h / 0 – 14 h 2.5 – 10.0 V / 5.0 – 20.0 V (adjust step 0.5/1.0 V) 4.0 – 11.5 V / 8.0 – 23.0 V (adjust step 0.5/1.0 V)	
Connection wire length	10 cm	
Dimensions (W x H x D)	82 x 94 x 20 mm	
Weight	210 g	
Wire cross section	2.5 mm2 (AWG 13)	
Type of protection	IP68 (1.5 m, 72 h)	
LED driver data	CIS-LEDx 1050 mA	CIS-LEDx 1400 mA
Output voltage	15 V to 49 V for 12 V system (5 to 15 LEDs in series) 30 V to 49 V for 24 V system (10 to 15 LEDs in serie)	
Nominal output current per sting	1050 mA	1400 mA
Max. load power	45 W	60 W
Dimming level	0 – 100% (adjust step 10%)	

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CABLE SUB-SYSTEM

Plug and play PV and battery cables

Specifications

The cable sub-system is for connecting the PV panels and battery to the charges controller with Plug and play MC4 connectors ensure the easy wiring IP67 protection

The cable sub-system conformed by PV and battery cables allows the connection from Charge Controller to the PV panels and to the battery sub-system.

The cables were specially designed to protect the system against hard environmental conditions, protected with IP67.

Cable	4 mm^2
Maximum working voltage	DC 1000V
Rated current	30A
Flame class	UL94-B2
Shell protection degree	IP67
Ambient temperature range	-40 to +85 ºC
Safety level	Class II
Insertion force	≤50N
Withdrawal force	≤50N

Battery extentions cables

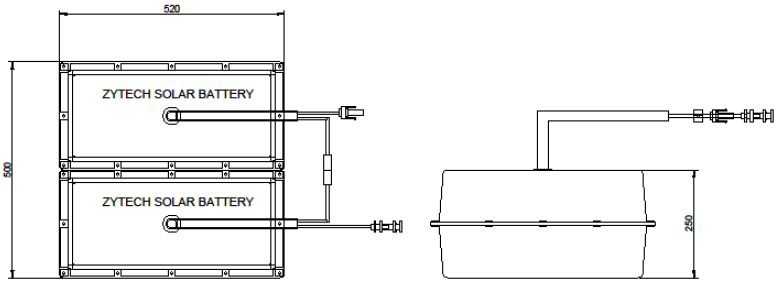
Cable dimmension

Item	Name	Description	Lengh (m)	Terminals
1	Cable Batt (+)	To connect positive screw in the battery to the outside on battery box.	1	Screw/MC4
2	Cable Batt (-)	To connect negative screw in the battery to the outside on battery box.	1	Screw/MC4
3	Cable Batt (+) extention	To connect from Battery Box positive MC4 plug to positve MC4 plug in the CCD	7	MC4/MC4
4	Cable Batt (-) extention	To connect from Battery Box negative MC4 plug to MC4 2-1 addapter	7	MC4/MC4
5	Cable PV (-)	To connect from PV panels to the negative MC4 2-1 addapter. *(Connected to the PV panel from factory)*	1,8	-/MC4
6	Cable PV (+)	To connect from PV panels to the positive MC4 plug in the CCD *(Connected to the PV panel from factory)*	1,8	-/MC4
7	MC4 2-1 addapter	To fix negative cable from PV panels and batery system	-	MC4/MC4
8	Cable CCD Batt/PV (-)	To connect from MC4 2-1 addapter to positive and negative CCD cable	0,3	-/MC4
9	Cable CCD PV (+)	To connect from PV MC4 positive plug to positive PV CCD cable	0,35	-/MC4
10	Cable CCD Batt (+)	To connect from Battery MC4 positive plug to positive battery CCD cable	0,4	-/MC4
11	Cable LED(+ -)	To connect from LED output CCD to the LED streetlight *(connected from factory)*	-	-/-

BATTERY SUB-SYSTEM

Features & advantages

Battery sub-system is GEL deep cycle battery, with 12 years floating design life, superiory designed for frequent cyclic discharge applications under extreme temperature. By using strong grid to insure reliable performance under frequent cyclic discharge use. 400 cycles could be available at 100% DOD. Offering extra-durable cyclic performace, high efficiency of recovery, that is more suitable for solar street lights.



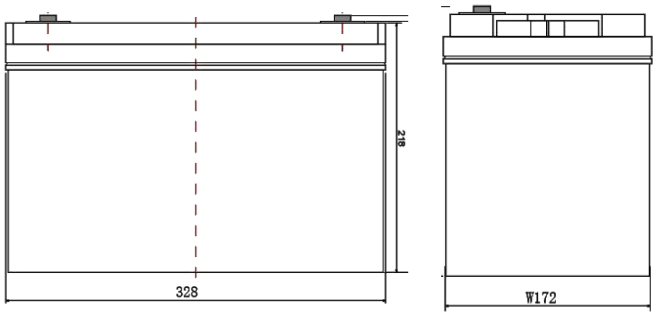
- Two boxes for 24VDC
- One box for 12VDC

Specifications

Nominal Voltage		12 Volt	
Nominal Capacity (20HR)		110 Ah	
Dimension	Length	328 mm	12.9 in
	Width	172 mm	6.8 in
	Height	218 mm	8.6 in
	Total Height (with terminals)	222 mm	8.7 in
Weight	Approx.	31.5 kg	69.3 ibs

Characteristics

Rated Capacity 25°C (77°F)	C_{20} 1.80V/Cell	110 Ah
	C_{10} 1.80V/Cell	102 Ah
	C_5 1.80V/Cell	92 Ah
	C_1 1.70V/Cell	66 Ah
Capacity Affected by Temperature (20 HR)	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Internal Resistance		4.5 mΩ
Max. Discharge Current 25°C (77°F)		1100 A (5S)
Nominal Operating Temperature Range		25 ± 3°C (77 ± 5°F)
Operating Temperature Range	Discharge : -15 ~ 60°C (5 ~ 140°F)	
	Charge: 0 ~ 50°C (32 ~ 122°F)	
	Storage: -15 ~ 60°C (5 ~ 140°F)	



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LED STREET LIGHT(SOLAR)

ZYLED SLAC6 SERIES

Led Lamps are perfect for track and recessed lighting.
Their performance provides more light where you need it.

Typical Applications

- Road Lighting
- Street lighting
- Park and Garden Lighting

Zytech LED

ZYLED-SLAC60W

SLAC-60W
650mmx300mmx130mm

Features

- Extra long life rating of 60.000 hours.
- High efficiency: Up to 110ml/W, 50% higher than ordinary street light, compared with Sodium lamp, 80% energy saved.
- Long Lifespan: 5-8 times than the ordinary lamp, save maintenance cost.
- Super Thermal Dissipation: Great heat sink made of aluminum alloy with high thermal conductivity, significantly reduce the temperature rise, junction temperature rise will be less than 10 degree, effectively extending the lamp life.
- Great Reliability: No start-up delay, constant current drive, no flicker.
- Perfect light Distribution Solution: Adoption of integrated peanut shell optic lens, meet the photometric requirements of park and garden lighting solution design standards, enhances the brightness and illumination uniformity.

LED STREET LIGHT(SOLAR)

GENERAL CHARACTERISTICS

PRODUCT NAME	Finish Color	LED type	Life time (Hours)	Structure
ZYLED-SLAC-26W	Grey	Taiwan leds 30pcs	100000 - L80 @ 25°C	Aluminum
ZYLED-SLAC-44W	Grey	Taiwan led 50pcs	100000 - L80 @ 25°C	Aluminum
ZYLED-SLAC-60W	Grey	Taiwan led 60pcs	100000 - L80 @ 25°C	Aluminum

ELECTRICAL CHARACTERISTICS

PRODUCT NAME	Power (W)	Voltage (V)	Maximun Corrent (A)	Frecuency	Power factor/ Driver eficiency	IRC
ZYLED-SLAC-26W	26	AC90-305/ 12-24VDC	AC 0.55 A DC 800m A	50Hz/60Hz	0.95/0.9	75
ZYLED-SLAC-44W	44	AC90-305/ 12-24VDC	AC 0.67 A DC 1500mA	50Hz/60Hz	0.95/0.9	75
ZYLED-SLAC-60W	60	AC90-305/ 12-24VDC	AC 0.77 A DC1800mA	50Hz/60Hz	0.95/0.9	75

CARACTERÍSTICAS FOTOMETRICAS

PRODUCT NAME	Lumens (lm)	Eficiency (lm/W)	Color Temperature	Beam Angle (^{0})
ZYLED-SLAC-26W	2600	100	3000-6000	145°x75°
ZYLED-SLAC-44W	4400	100	3000-6000	145°x75°
ZYLED-SLAC-60W	6000	100	3000-6000	145°x75°

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