celesta ®


every second,
our sun produces
enough energy to
sustain Earth's needs
for 500.000 years.

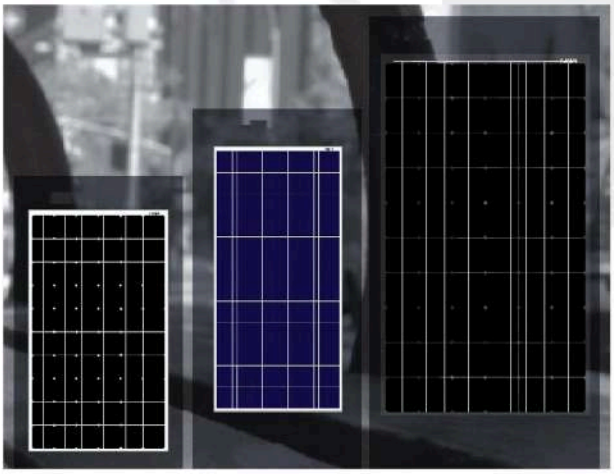
COMPANY PROFILE

PT. AVECODE INTERNATIONAL was founded in 2007 as green and renewal energy products located in Batam, Indonesia, latter in 2011 the company start to market Solar Energy system for Home Application and Street Light, with registered brand name celesta ®.The company had been going through completed on constant growth, PT. AVECODE INTERNATIONAL with its latest expansion by having own manufacturing facilities for solar panel & solar street light assembly, our total capacity min 60 MW / years.

PT. AVECODE INTERNATIONAL also heaving advance solar controller technology for solar street light, the ability to light up the solar street light 5 times longer on cloudy & rainy days compare other product, The company was certified for ISO 9001:2015 quality management standard.

AI Intelligent Technology To Achieve Customized, based on 70% power saving, through the AI intelligent digital power technology, we able to do better customized according to local sunshine and rainy days.

Our advance solar street light system, Rangked as No. 1 top brand for solar street light.



Company Registration :

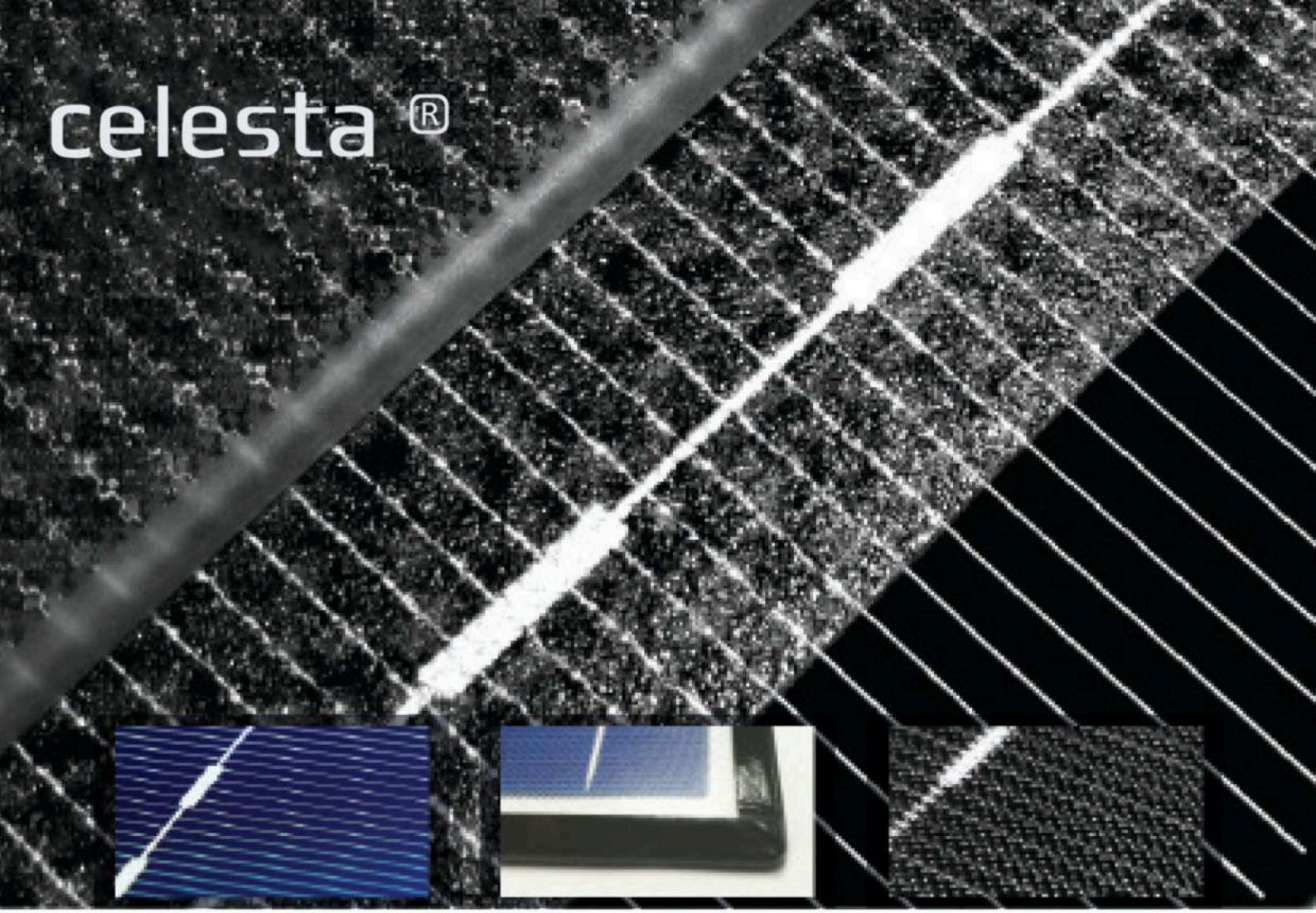
1. Registered at : Komp.HI-Tech Jl.Budi Kemuliaan Blok VI Lubuk Baja, Batam 29432 Kepri, Indonesia.
2. Payout – Capital : Rp 5.000.000.000,00 equivalent to USD 500.000,00
3. Business Scope : Industry and Consumer Goods Supply.

Company Mission : To Provide Best Solution for Customers' Needs.

Our Competitive Advantages:

1. Ranked top product quality with its brand new technology.
2. It has own production base and engineering team to produce high-quality product.
3. Strong sourcing team with years of technical know-how.
4. Warranty & Certificate
   Feel free to leave the warranty issue to celesta ®

celesta ®



CELL

Celesta Solar is undoubted leader in solar cell technologies. We have reached the highest efficient cell, which is over

22.20%

The cell also has anti PID class, which can make the cell generation more powerful in extreme environments.

Seal Tape

We are working with the most professional seal company in Germany, and cooperated to innovate the seal tape for solar module, which could protect the panel in all ways. The certification of

IPX7

class waterproof level guaranteed there is no water leaking into the panel.

Glass

The glass could not only protect the cell from breaking up, but also helps it to absorb more sunshine.

Compared to nomarl glass, the glass we specially deisned has more than

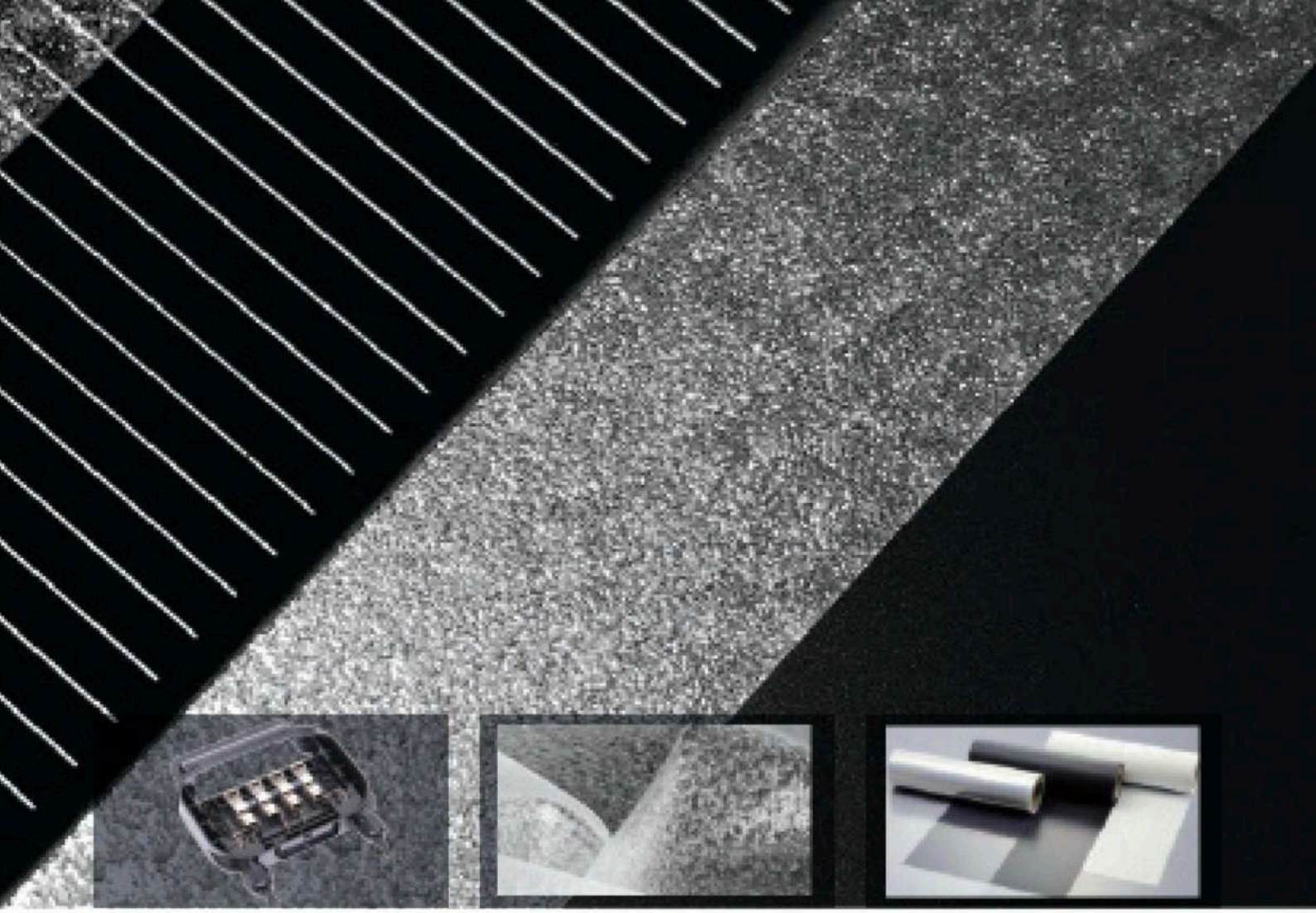
1,000,000

condenser lens to absorb more photon, which world generates

5% UP

of power output.

Panel Materials



Junction Box

In the solar cell module composition, Junction Box is a very important element and its main role is to power on the external circuit connection in the solar cells.

IP-68

We are one of the leading companies who is using IP68 waterproof class Junction Box, it can protects electronic compontments in the best way.

EVA

In order to protect the fragile solar cells from crumbling and keep other elements away from corrosion and oxidation.
So we to stick the EVA with the glass, the cell and the back sheet together.

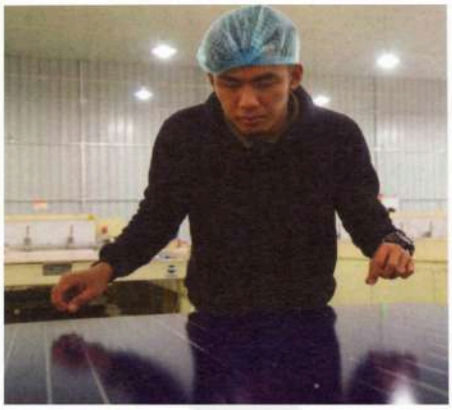
85 °C

We are using EVA material for every single solar module. They have been tested in 85 C and 85% moisture room to make sure that the cells won't erode.

Back Sheet

The presence of moisture in the air, and the water molecules pervasive.
To improve its protection the double side back sheet fluorine has been used to isolate the cells.
To make sure the module could work well as we promised.

25years



We setup a solar panel manufacturing in 2013, aim to export the goods to Europe and also local Indonesia market.

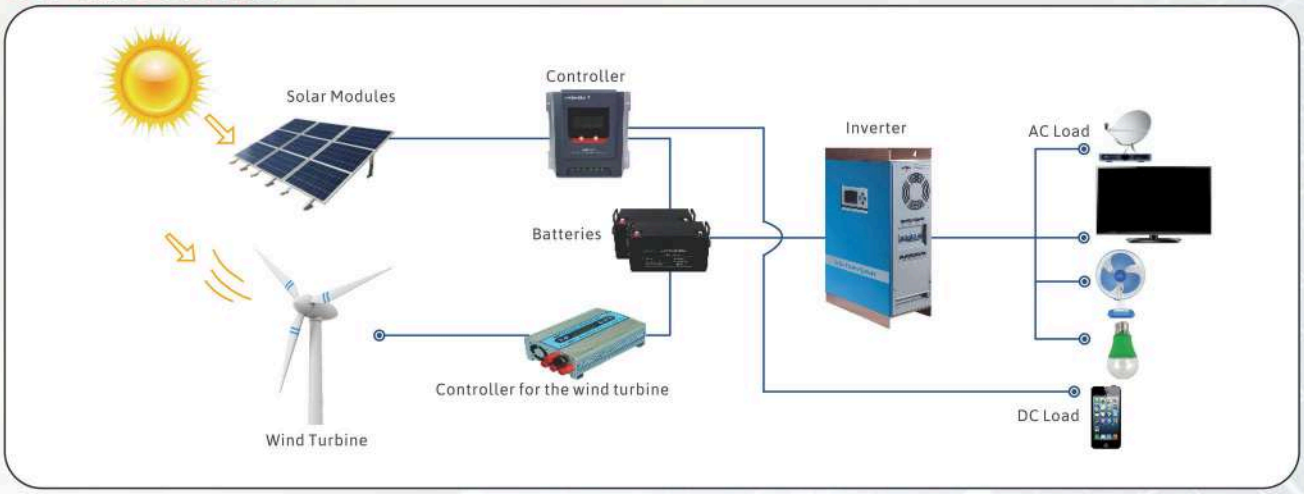
Our total production capacity is 60MW / Year, Base on our current manual line process.

In recent years, PT AVECODE INTERNATIONAL gained excellent reputation in Indonesia and increased sales volume in recent years.

The development of Indonesia local market, allowed us to expand our current production capacity by establish full automatic soldering line by end of 2019 with capacity 100MW/ year.

With our collaboration with German engineer through our partner " Hanover Solar Gmbh " we are able to maintain the high standards in panel quality.

OFF GRID SYSTEM



ON GRID SYSTEM

- SOLAR PANEL
  A power generating device that converts solar radiant energy into electrical energy by absorbing sunlight.
- INVERTER
  Convert the DC power generated by the solar panels into AC power for home use or sold to the grid.
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  Convert the DC power generated by the solar panels into AC power for home use or sold to the grid.
- SOLAR CHARGER CONTROLLER
  This control charging of the batteries.
- BATTERY
  Since the sun doesn't always shine, the electrical energy has to be stored somewhere for use in the meantime. We store it in batteries.
- SOLAR FRAME
  Customized according to the roof.

Solar Tracker System-Panasonic Batam

Solar On-Grid System-Philips Batam

Solar Off-Grid System-Longnawang (Kaltara)

Solar On-Grid System-Excelitas Batam

Solar Off-Grid System-Batam

Solar On-Grid System-UNSRI (Palembang)

Monitoring Solution

We can provide our customers with a flexible internet monitoring solution which is suitable for residential, commercial rooftop systems and PV power plants. System monitoring device is user-friendly and reliable. It can transmit Real-time data to our server via internet. Customers can login website or use APPs to check power plant information.

Off-grid

Off-grid Inverter

BN1012C/E
BN1024C/E
BN1512C/E
BN1524C/E
BN2012C/E
BN2024C/E

BN3012C/E
BN3024C/E
BN4048C/E
BN5048C/E
BN6048C/E

Solar Pumping Inverter

BPD0K7TN(AC)
BPD1K5TN(AC)
BPD2K2TN(AC)
BPD004TNAC
BPD2K2TRAC
BPD004TRAC
BPD5K5TRAC

Energy Storage

Hybrid Inverter

BD3KTL
BD5KTL

BD3KTL-MR
BD4KTL-MR
BD5KTL-MR

All-in-one Hybrid System

BD3KTL-HS
BD5KTL-HS

BD3KTL-TD
BD5KTL-TD

Energy Storage Inverter

BD3KTL-PS

Grid-tied

Single Phase Grid-tied Inverter

MG750TL
MG1KTL
MG1K5TL
MG2KTL
MG3KTL

MG4KTL
MG4K6TL
MG5KTL

MG3KTL-2M
MG4KTL-2M
MG4K6TL-2M
MG5KTL-2M
MG6KTL-2M

Residential 0.75-6KW

Energy Storage Converter

BD50KTR
BD100KTR
BD250KTR
BD500KTR
BD630KTR

Three Phase Grid-tied Inverter

BG4KTR
BG4KTR-S
BG5KTR
BG4KTR-S
BG6KTR
BG8KTR
BG10KTR

BG12KTR
BG15KTR
BG17KTR

BG20KTR
BG25KTR
BG30KTR
BG33KTR
BG35KTR
BG40KTR-HV
BG50KTR-HV

BG40KTR
BG50KTR
BG60KTR
BG70KTR

Commercial/Plant 4-70KW

FULL DC MINI HOME SOLAR SYSTEM

Indonesia is one of country located under equatorial coverage, which translated to greater potential of solar energy harvesting.

CELESTA SHS product line are designed to the need of Indonesia rural area and remote area where the electricity & grid connection are impossible to reach, Such area like rural villages, Farm, Plantation, Ad-hoc project, Mobile operation Units, Etc.

The CELESTA SHS System are designed with accumulate knowledge of power management, quality component & the pattern of consumer electric consumption of villagers.

With all experience we deliver reliable product, to last four years with minimum maintenance requipments.

CL-SHS180W-GEL

Solar Panel

Type	: Mono Crystalline
Peak Power	: 180W
Rated Voltage	: 19.80V
Cell Efficiency	: 18.60%
Panel Efficiency	: 15.40%
Quantity	: 1 Pcs

Controller

Type	: MPPT-DC
System Voltage	: 12/24V
Max.charging current	: 15A
Max.Tracking efficiency	: 99.9%
Max.Charge conversion	: 97.0%
Max.Led driver efficiency	: 96.0%
Quantity	: 1 Pcs

Battery

Type	: Gel Battery
Voltage	: 12V
Rated Capacity	: 100Ah-Gel
Rated Capacity	: 60Ah-Lithium
Quantity	: 1 Pcs

Led Light

Type	: Led Bulb
Voltage	: 12V
Power	: 3W
Quantity	: 5 Pcs

TV LED

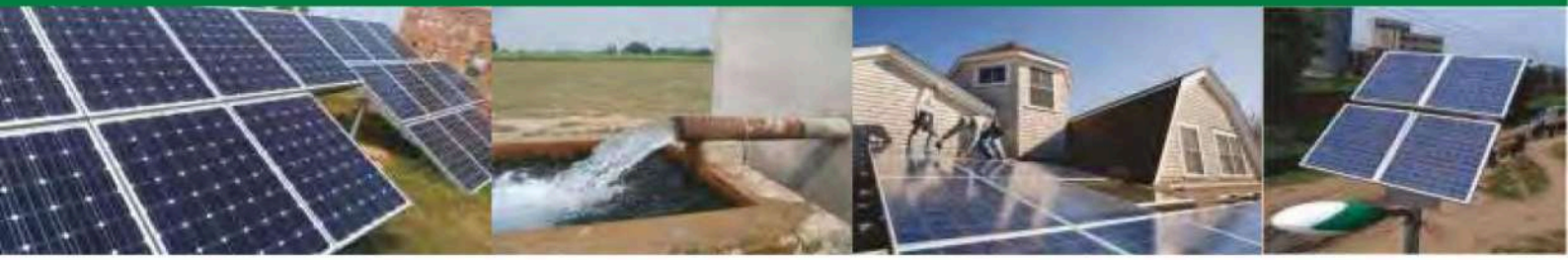
Type	: TV LED
Screen Size	: 22"
Voltage	: 12VDC
Quantity	: 1 Pcs

Parabola Receiver

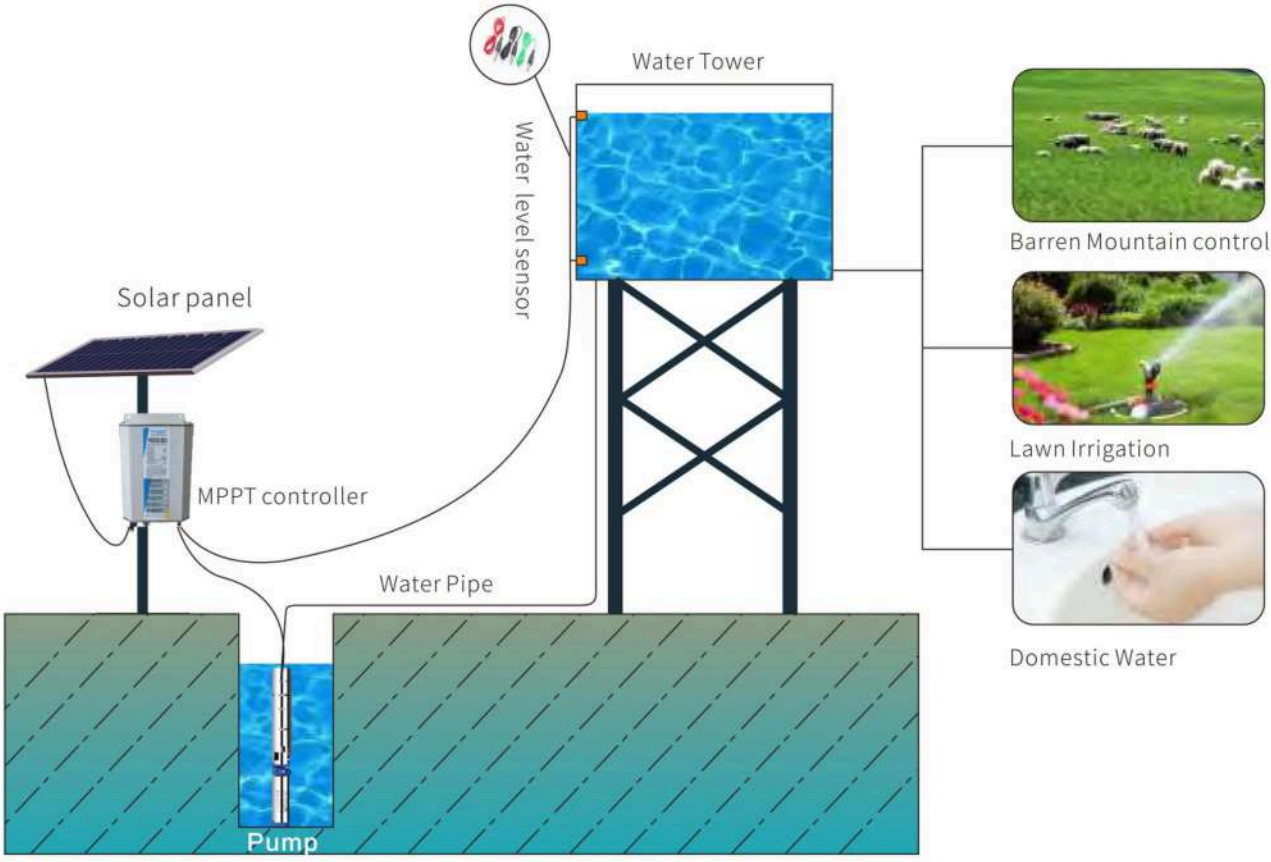
Type	: Parabola
Decoder	: Receiver
Voltage	: 12VDC
Quantity	: 1 Pcs

Photovoltaic water pumps is solar water pumps, photovoltaic pumping system is Luminous energy -Electro-Mechanical integration System with the rapid development in recent years, which is using the electricity by the solar panel, through the maximum power point tracking, conversion and control device drivers DC, permanent magnet, brushless, non-sensor, dual-rotor plastic motor or high-performance high-speed asynchronous motor or switched reluctance motor driven high efficiency pump, pumping water for irrigation or human and animal consumption from the depth to the ground.

It has been increasingly recognized the most attractive means of water supply in the sunshine rich areas, especially in the remote areas of lack of electricity and without electricity, using the solar energy which is taken from everywhere and inexhaustible to achieve water supply of high economic and high reliability. Pumps work sunrise and stop sunset automatic without person to do it ,it is an green energy high—tech products with economic, reliability and environmental benefits.

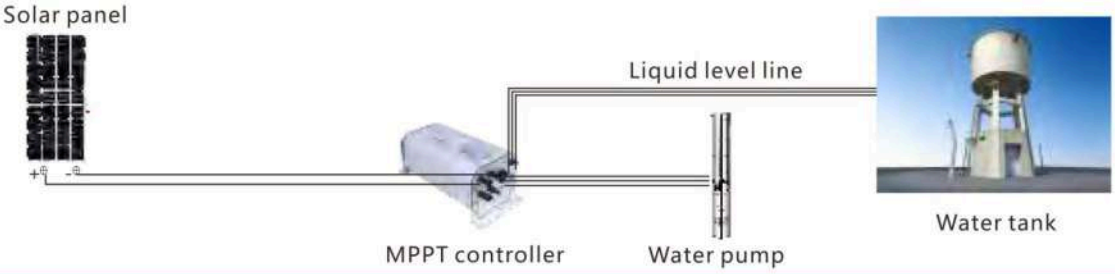


The Principle diagram of the photovoltaic pumping



SOLAR WATER PUMP-INSTALLATION CONNECTION DIAGRAM

1



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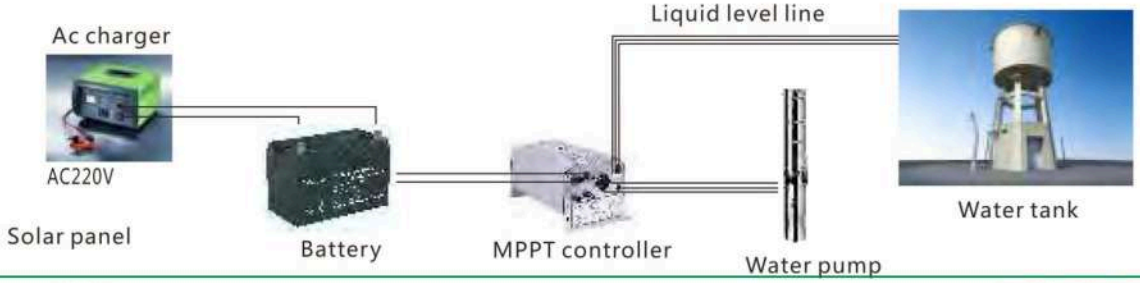

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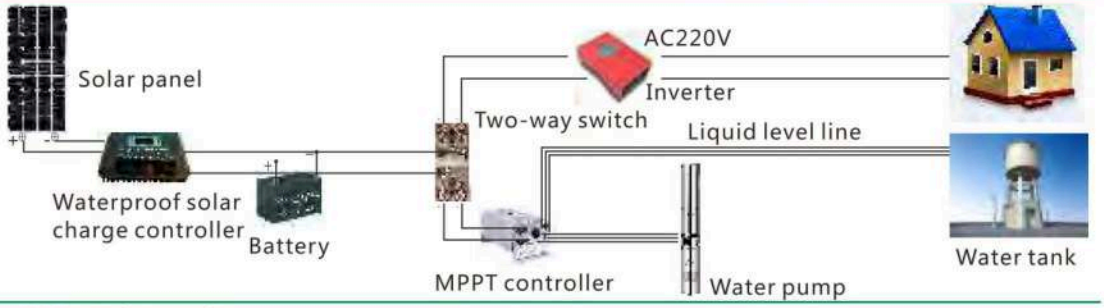

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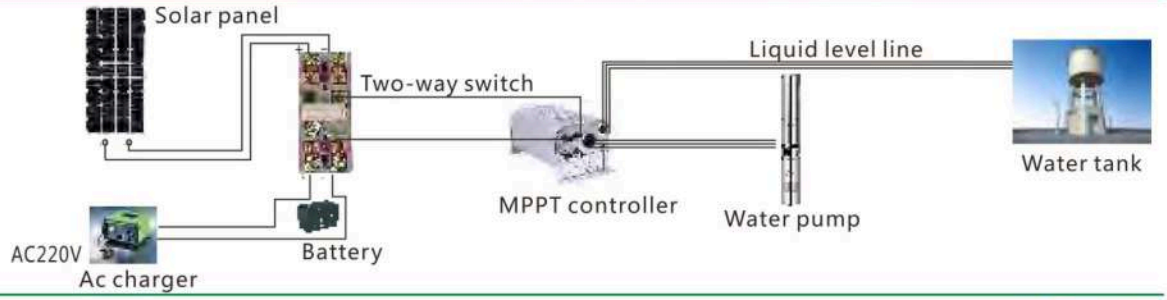

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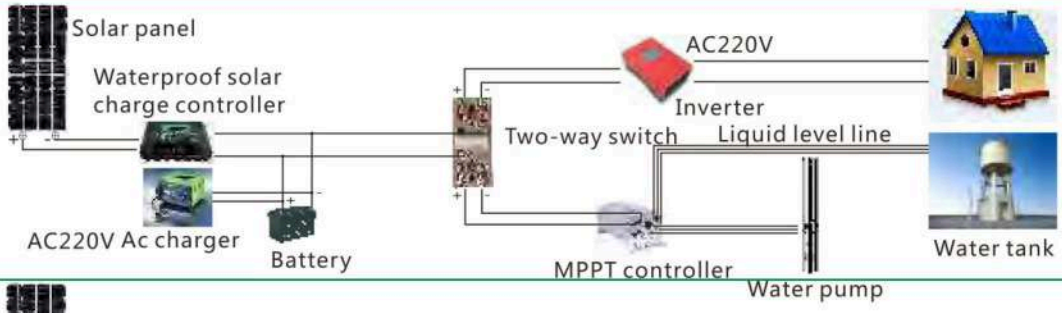

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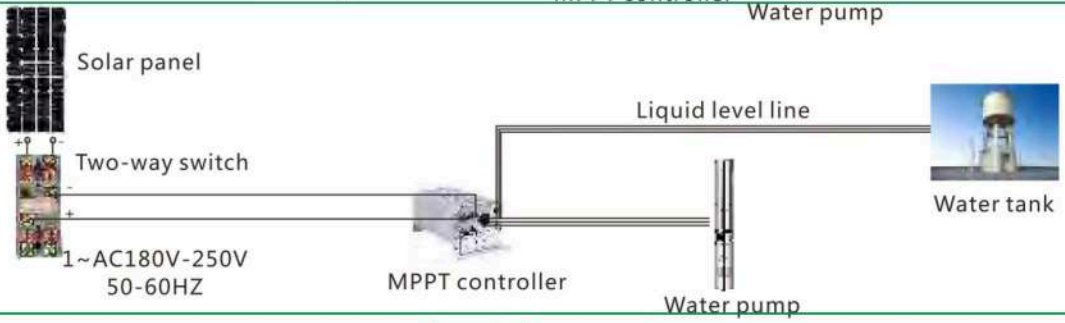


HOW TO SELECT SOLAR STREET LIGHT

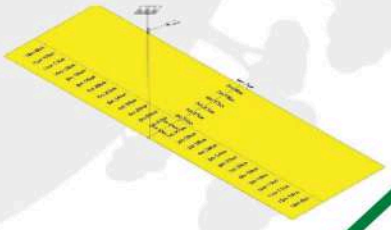
- There are current no standards for solar street light and many suppliers product are neither well engineered and suffer from performance and stability issues.
- Solar Street light systems are actually hightly customizable system solution. this market is a little disordered.

We will like to provide our professional advice when considering a solar street light system, with our brand new intelligent technology.

- Brightness: How many LUX on the ground ?
- Autonomy Day: How many working days without sunshine ?
- Lifespan : How long is the system life ?

HOW BRIGHT IS THE LED

- We use high-power LED from CREE and BRIDGELUX and other top brand with high lumen chips, 170 Lm/W.
- Our LED is > 30% brighter than other high-power LED. As an example, for 6m height of light source, we only need 35W to reach 36LUX, but the others need 50W and about.
- Rectangular Shape light distribution without extra lens will dramatically improve the efficiency of LED lighting LUX by 15-20%. Most other vendors uses some form of lens to achieve the same effect.



Our Patented Design High Efficiency LED Bulb

Light is evenly distributed in a rectangular shape The LED's beam angle can reach 60*15O degrees. (Round lighting Shape waste portions of the light zone. Our rectangular lighting shape can therefore improve the effeciency significantly)

SOLAR STREET LIGHT-RETANGULAR DISTRIBUTION

No Blank Spot LED's Beam

Rectangular Shape LED Beam

Light is evenly distributed in a rectangular shape. the LED's beam angle can reach 60*150 degrees. (Round lighting shape waster portions of the light zone). Shape able to cover the total area from every pole distance.

Lighting throughout the whole year - Digital Controller

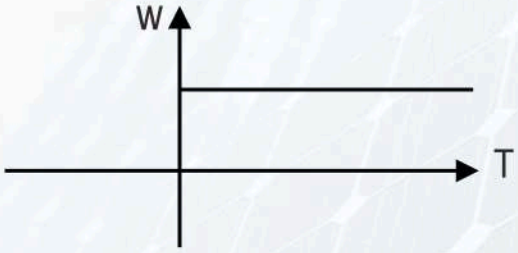
Why & How our patented controller makes our LED lamp save 70% Power compared with others,

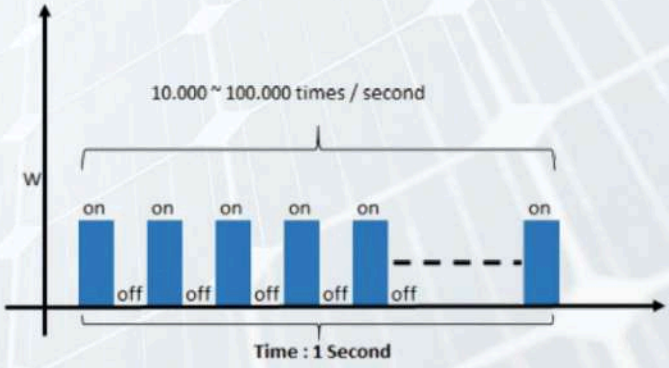
45% + 15% + 10% = 70%

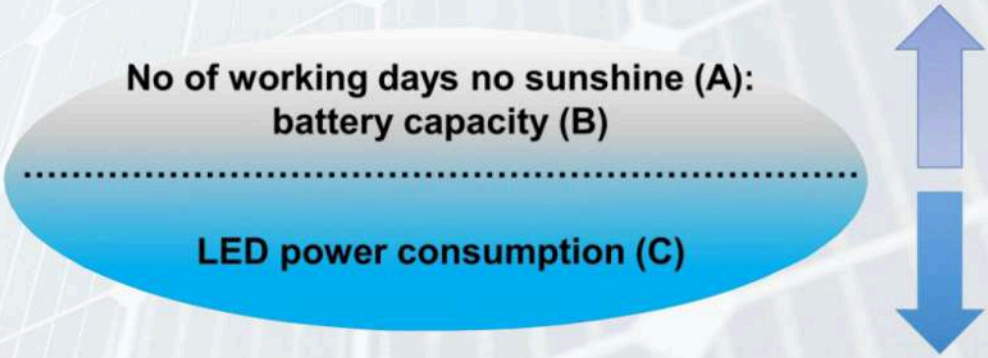
LED is basically semiconductor device, which favors power "on-off" Our patent controller makes the LED turn on/off 10K per second. Human vision cannot detect any flickering effect when frequency is above 25 frame/second.

By doing so, the light is working only half of the time, but to our eyes, LED is lighting in full time.
The regular constant-current driver makes LED work full time. Therefore, combining with our power management system we save up to 70% of LED power consumption.

Other LED Lamp







Our Controller has 2 patents,
One is invention patent,
Patent No :
ZL200710031050.6
ZL200720058676.1

A major problem with current high power LED street light is heat sink. the high temperature rise result in high light Decay 44-55 V.S. 65-75

Our light decay rate is much lower than industry standard. Our LED life span: >-50.000 hours, (to use for 12 hours per day), >6-8 Years VS the other vendors 3 Years of LED Lamp Life.

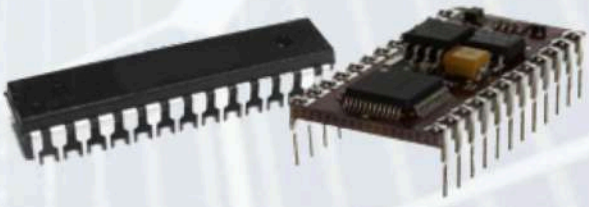
By Removing conventional LED driver, we save up to 15% of power loss.

INTELLIGENT CONTROLLER

OTHER CONTROLLER

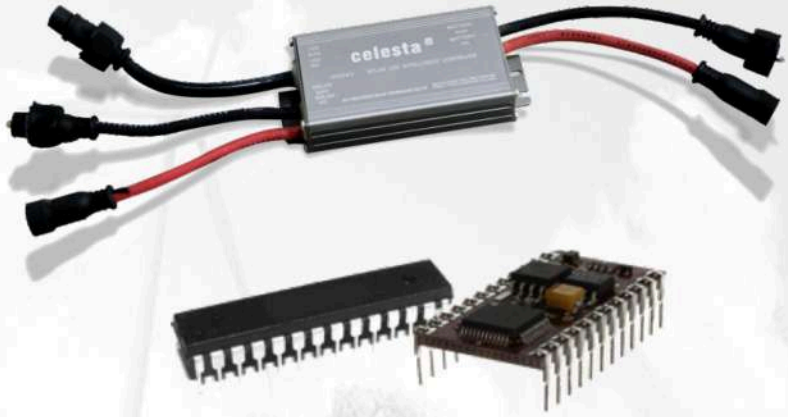
Capacitor is indispensable device in the constant current driver
it's lifespan : <5 years

INTELLIGENT CONTROLLER

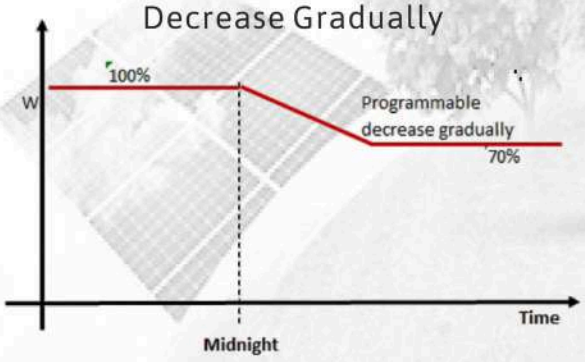


Our patented intelligent controller uses 2 IC which consume 0.0625W to replace the constant current driver, so there is not capacitor in our controller the main material of IC is silicone, so our controller life is more than 10 Years.

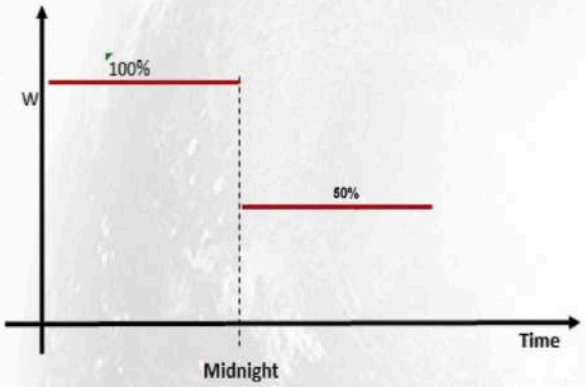
Unique Energy saving mode design from our controller allows our lighting to decrease gradually after midnight resulting in a further saving of 5-10% LED power consumption.



Celesta Programmable Decrease Gradually



Other Product-Suddenly Decrease



50% power consumption compared with other solar street light systems is achieved 3 times longer in rainy / cloudy days that is to make sure our solar street lights work through 20-25 continuous days without sunshine. Most importantly, it achieves 100% lighting throughout the year

BATTERY LIFE

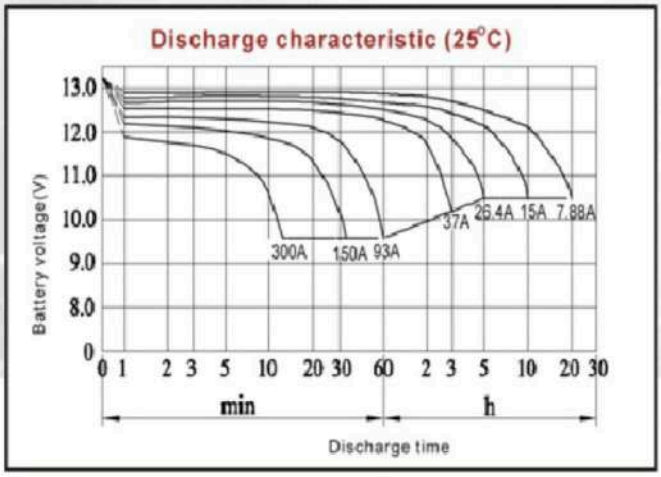
the most important component for it's charging and discharging is electrolyte, which must be cell protected, to improve the battery life to prevent the electrolyte from evaporating. This is related to the battery's deep cycle times and working environment temperature.

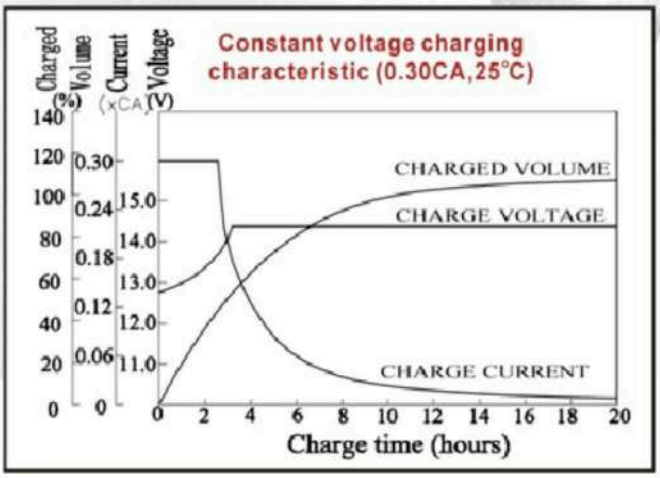
A.1. Deep Cycle.

This is the time cycle from battery full charged to full discharged, Our solar street light saves 70% power consumption. Therefore, each deep cycle time is prolonged.

A.2. Working Environtment Temperature.

The most suitable working temperature for battery is 20-25°C. If environtment temperature is 10°C increased, lifespan of the battery could be decreased by half. By burying the battery under the tundra, (about 0.7-1m below ground) improves the battery's working efficiency Er life span. The constant temperature under tundra (about 20-25°C)



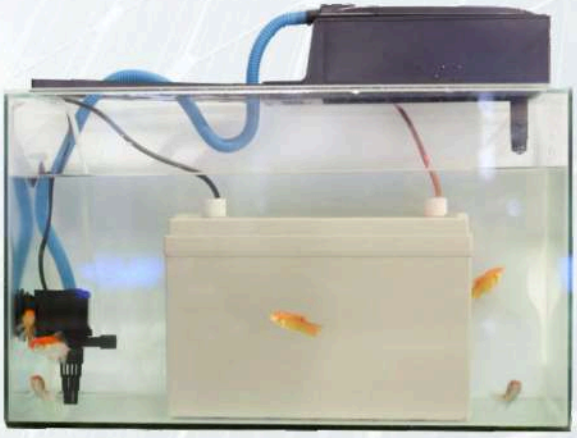


Why our batteries can be buried under the tundra ?

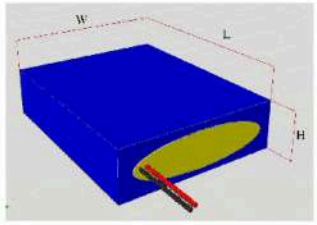
Nano Technology Casing

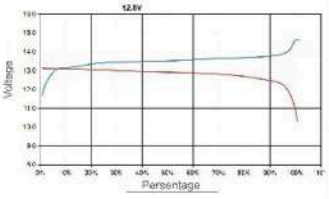
Our battery casing is designed especially for solar applications. Nano technology is used in the casing and insulation / waterproof of electrodes, therefore no electricity leakage & water seepage when the battery is buried underground. This ensure our battery meet the environmental compliance & prevent soil contamination.

- Our battery life is 4-5 years compared to 1-2 years from otherunder normal operating conditions
- Gel battery : 8-10 years.
- The Battery is about 35% of total cost of the solar street light, changing he battery 5 times means buying another solar street light system within 10 years.



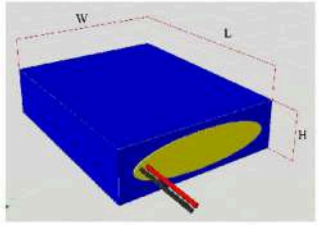
BATTERY LiFE-P04

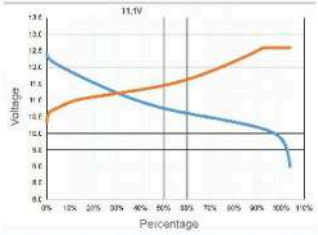




Item	Parameter
Battery Pack	4S8P, 32650-6000mAh
Nominal Voltage	12.8V
Nominal Capacity	48Ah (4.8A Discharge @25℃)
Size/mm	L270±2× W420±2× H36 ±1
Weight	4.5± 0.05 Kg
Internal Resistance	≤70mΩ
Max Charging Voltage	14.6V
Discharge Cut-off Voltage	10.0V
Cable	Waterproof cable as per customer's requirement
Max Continuous Discharge Current	10A
Peak Discharge Current	25A (less than 5s)
Max Charge Current	10A
Over-Charge Protection Voltage	3.85V per single series
Over-Discharge Protection Voltage	2.0 V per single series
Over-Current Protection	30 ± 5A

BATTERY Li-Ion





Item	Parameter
Battery Pack	3S21P, 18650-2500mAh
Nominal Voltage	11.1V
Nominal Capacity	52.5Ah (6.6A Discharge @25℃)
Size/mm	L202±2× W420±2× H20 ±1
Weight	2.8± 0.05 Kg
Internal Resistance	≤70mΩ
Max Charging Voltage	12.6V
Discharge Cut-off Voltage	9.0V
Cable	Waterproof cable as per customer's requirement
Max Continuous Discharge Current	10A
Peak Discharge Current	25A (less than 5s)
Max Charge Current	10A
Over-Charge Protection Voltage	4.25V per single series
Over-Discharge Protection Voltage	2.75 V per single series
Over-Current Protection	30 ± 5A

CABLE & CONNECTOR

our anti ultra violet silicon rubber purple cooper wire and silver plated high-strength, anti aging water proof connectors can reduce the cable system resistance & the power loss in the wire to the minimum extent.

Power Loss In the Wire (P) = 12R

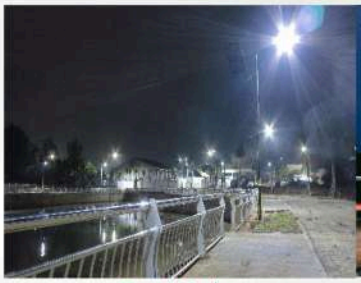
solar powered LED street lights : LED lamp : 100W/12V = 8.33-4A, P = 8.3342R = 70R, Ac powered street lights HPS power 100W/ 220V = 0.445/A, P=0445*0.445R = 0.203R

SOLAR STREET LIGHT-CONCLUTION

Using reputable components and applying rigorous IQC, Our Product overall reliability is strictly guaranteed.

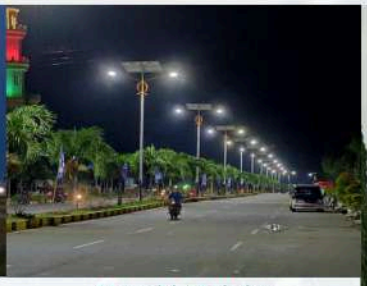
- The only guaranty 21 days operation under raining / cloudy days by using nano seal gel battery.
- When comparing, one will find that our lifespan is much longer, under same configuration and working duration in rain / cloudy days is 3-4 times longer,
- We promise 100% lighting throughout the year.
- 2 years total system warranty except solar panel 5 years warranty.

At the end of 2019, our group has delivered more than 6000 solar street light project in Indonesia, realizing whole year lighting with pure solar, the longest rainy and cloudy days reached 40 days. Numerous of our project confirm that our product don't need to change batteries in 5 years, saving the most cost for you.



Tang-Sel

Tanjung Balai Karimun



Masohi-Maluku

Masohi-Maluku

ORCHARD PARK
(Agung Podomoro)

Airport-Tanjung Pinang

Cargill Ketapang-Kalbar

RURAL AREA INSTALLATION

Desa tubbi-Polman

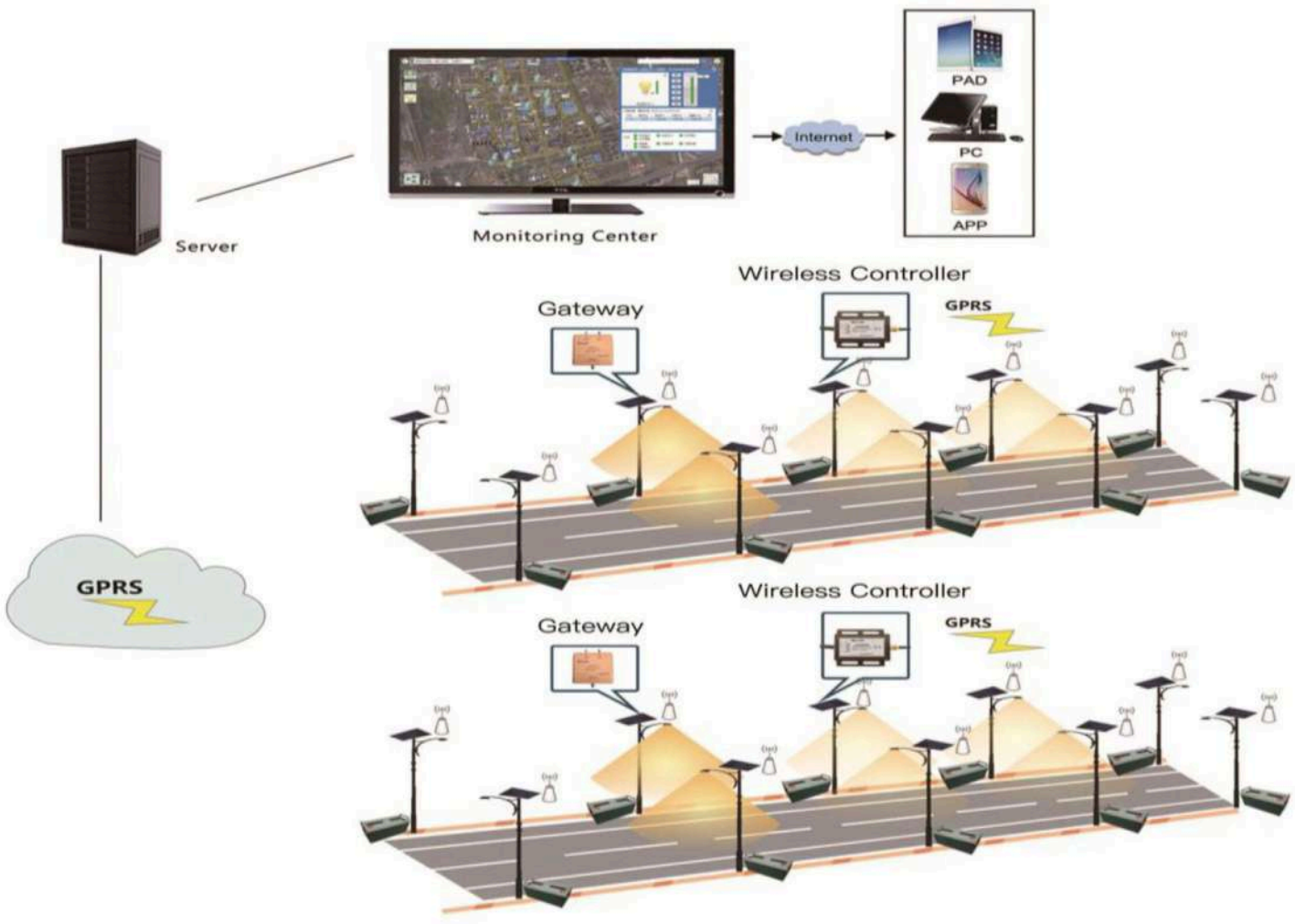
Desa Tubbi-Polman

Desa Ratte-Polman

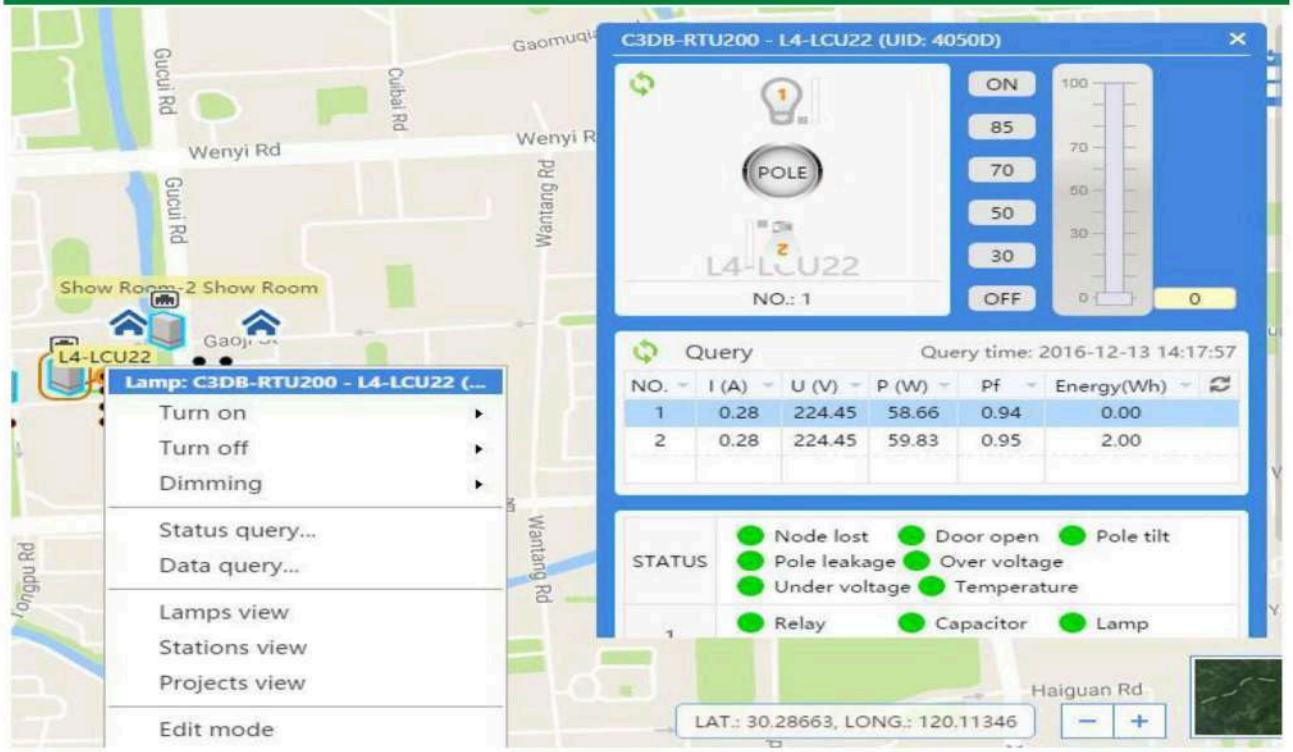
Smart lighting energy management system for solar street light mainly applies wireless communication technology to realize the functions of monitoring and management for solar street light.

Through the wireless network based on Zigbee and GPRS communication technology, the system could automatically acquire any kind of parameters and statuses from solar street light to make the on-demanding lighting come true. What's more, combined with solar street light technology, it could save the cost of power energy and maintenance labor. Additionally, under smart control and management, the solar street light could be working consistently without influenced by circumstance such as bad weather, serious terrain, etc.

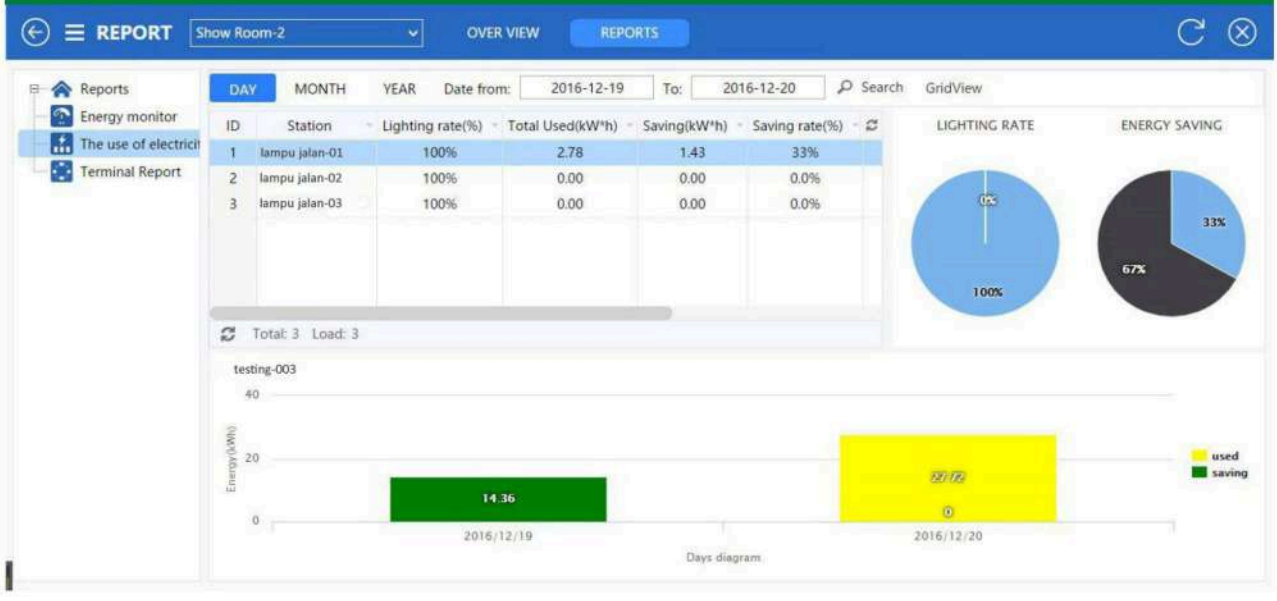
Working with smart lighting system, solar street light could improve the energy efficiency by turning on/off at same time while extending the life of battery.



• FULL RANGE OF DATA MONITORING
Automatically monitor and observe full range of lamp data and report abnormal situation in the event of accident or devices failure to be convenient for management and track.



• REPORT AND GRAPHS
Relying on the understandable reports and graphs auto-generated by system, users are able to supervise the situation of energy consumption, make a decision and hold lighting energy more effectively.



SOLAR TRAFFIC SIGNAL LIGHT SERIES

Longest rainy and cloudy days reaches more than 20 days (24 hours working/day). Which is 5 times longer than conventional products.

SOLAR LED GARDEN LIGHT SERIES

Solar Umbrella light

Product Features :
- Solar Panel : 18V, 15W Folding
- Lithium Battery : 12V 10A
- Umbrella Light Frame : 5V 5W Bluetooth 7 Color Music
- Output : Single USB
- Diameter of lifting umbrelle : 2.7M
- Height : 2,5M

Solar Canopy Light

Product Features :
- Solar Panel : 70W
- Battery : 11.1V, 40Ah
- Light : 20W
- Controller : 12V, 10A
- Bluetooth music cell phone charging
- Size : 2200*2000 mm

SOLAR LED GARDEN LIGHT SERIES


CL-004-GL


CL-057-GL


CL-058-GL


CL-001-GL


CL-040-GL


CL-100-GL


CL-064-GL


CL-063-GL


CL-066-GL

CL-097-GL

SOLAR LAWN LIGHT


CL-010RGB-LL


CL-004-LL


CL-104-LL


CL-310-LL


CL-009-LL


CL-010-LL


CL-036RGB-LL


CL-036-LL


CL-010-LL


CL-082-LL

SOLAR LED INSECT KILLING LIGHT

CL-01-IKL

CL-03-IKL

CL-03-IKL

CL-011-IKL

HIGH VOLTAGE MOSQUITO KILLING LIGHT

CL-012-IKL

CL-008-IKL

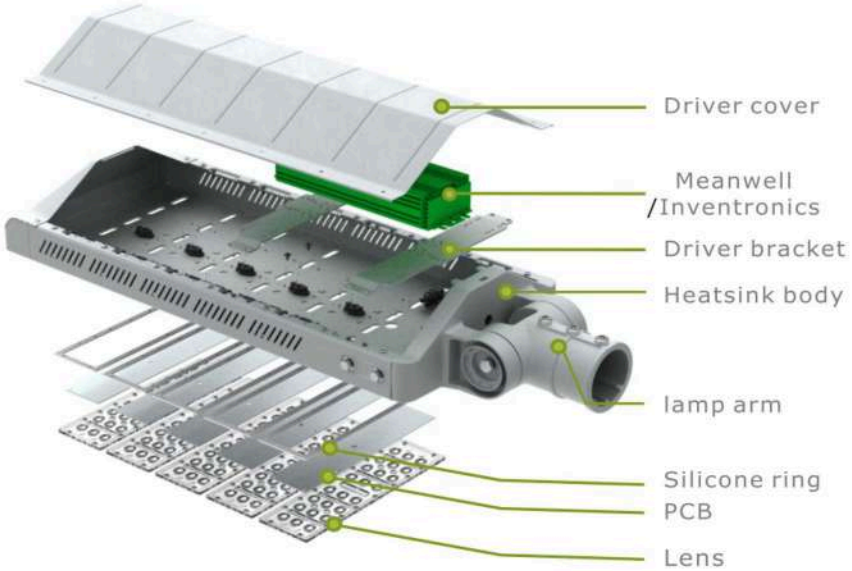
CL-013-IKL

CL-T-008-IKL

LED STREET LIGHT

High performance module lighting, light easy to in Install, Widely used in mainroads, high ways, parking, viaducts, urban streets, overpasses, sidewalks, squares, schools, residential areas, parks and so on. While using less energy than traditional fixtures.

DETAIL SHOW OF LIGHT STRUCTURE



3D good heat dissipation

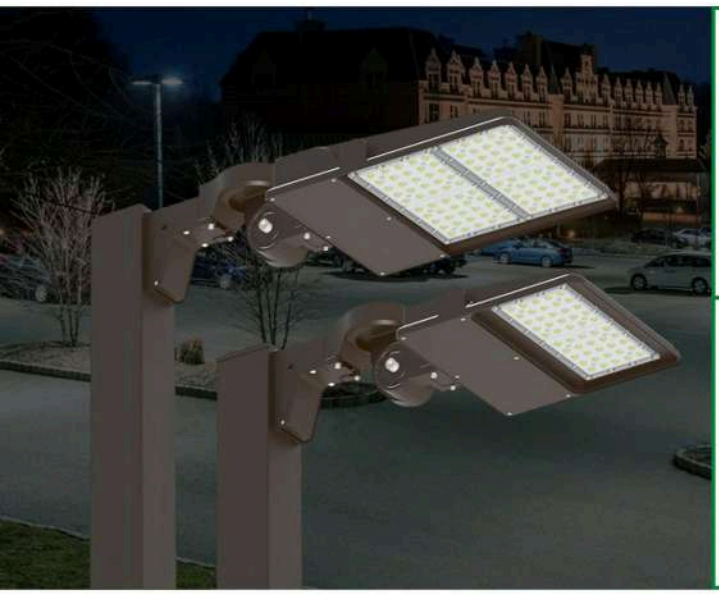
Body's Inner and outer ventilation system design of the air to Auxiliary heat dissipation

Good Corrosion resistant

Baking technology , glossy and not easy to change color, corrosion-resistant, suitable for outdoor environments

LED STREET LIGHT

High performance module lighting, light easy to in Install, Widely used in mainroads, high ways, parking, viaducts, urban streets, overpasses, sidewalks, squares, schools, residential areas, parks and so on. While using less energy than traditional fixtures.



Arm mounting (square poles)

Arm mounting (round poles)

Slip Fitter Mounting

Wall Mounting

Turnnion Mounting

U Bracket Mounting

DETAIL SHOW

Area luminaires (an optional) come with field rotatable optics. This allows you to rotate the optics 45,90 degrees to the right or left, depending on the needs of your application. This is an important feature to limit light off-site and minimize jobsite complications.The tilt arm allows you to tilt the luminaire up to 55 degrees. This allows for additional forward throw to highlight specific areas of an application, such as a building facade.

CL-ST-022
Features

- CREE / Bridgelux chip
- Meanwell / Inventronics driver
- Integrate body cooling heatsink
  Fast and efficient heat dissipation
- Waterproff IP66
- Resist 12 typhoons
- Racquet air-channel cooling fast

DETAIL SHOW OF LIGHT STRUCTURE

30W | 50W/70W | 100W/150W | 200W

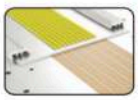
LED STADIUM LIGHT

High-performance module lighting, updated architectural lighting such as Stadium lighting, canopy lighting, tower crane lighting and so on. While using less energy than traditional fixtures.

DETAIL SHOW OF LIGHT STRUCTURE

Two kinds of aluminum reflectors are availabled

Square reflectors is also available: 10°x90°and50°x90°,meet the requirement of professional light distribution and can be used at different places.



High performance heatpipe conduct the heat

The heatpipe's principle is using the quick phases change of the liquid(medium) under vacuum condition which exchange the heat, the heat transfer rate is superior to any metal.

Massive fin cooling module

Massive fin cooling module efficiently reduce the temperature of the LED lighting chips and extend the lifespan of the lighting source.

Copper heatpipe

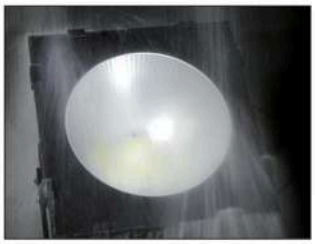
Copper heatpipe can conduct heat rapidly from chips bottom to the fins, greatly lower down the temperature of light source,extending its life span.

LED STADIUM LIGHT

High-performance module lighting, updated architectural lighting such as Stadium lighting, canopy lighting, tower crane lighting and so on. While using less energy than traditional fixtures.

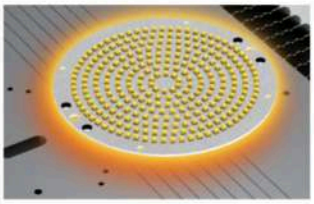
DETAIL SHOW OF COOLING TECHNOLOGY

PROFESSIONAL LIGHT DISTRIBUTION FREE TO CHOOSE

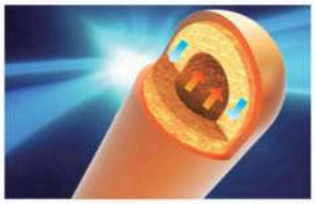


PROTECTION GRADE IP65

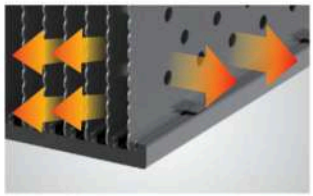
240° BRACKET



CREE CHIP



COPPER HEATPOPE



3-D HEAT DISSIPATION

THE ENTIRE HOUSING COATDE BY EECTROPHORETIC PAINT

SILICA GEL RING SEALING

RESPIRATOR DESIGN

This Upgraded High Bay Light is an ideal lighting fixture for your warehouse, factory, workshop, plant, supermarket, basement parking or other commercial places. Its high stability current and superior LED chip will provide your working place with stable and sufficient brightness.

CE IP65 100-277V /50-60Hz 4KV

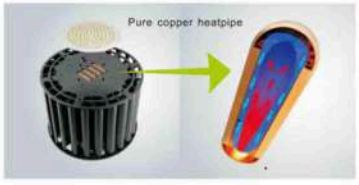
Features

- Lamp body with AL6063 aluminum material, pure copper tube set inside for thermal conductivity, taking good effect in LED life span;
- Optional various installations, satisfying different needs of lighting applications;
- Heat sink fin enlarges heat dissipation area with stylish profile;
- Replace: HID 200W-800W;
- Warranty: 5 years.

CL-GK-005 Series

The HDT Technology

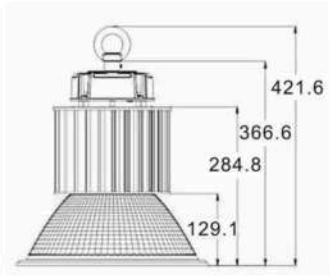
Pure copper heatpipes directly touch the heat source which couldquickly transfer heat to the heatsink with the heat transfer rate over200 times of the aluminum radiator.

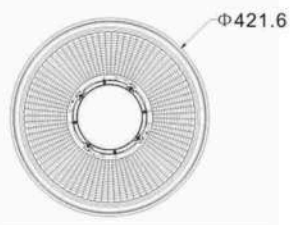


Refector Option

25° 60° 90° 100° 110° six sizes of reflector for higher lighting efficiency

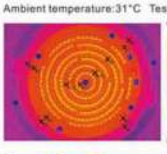
Dimensions(mm)





Chip Temperature Test(200W)

Ambient temperature:31°C Testing duration:16 Hours



Average temperature of PCB:74°C;
Average junction temperature of LED chips:85°C

Average temperature of heatsink:65°C;
Average temperature of driver:62.5°C

Installation

A.Hook Ring

B.Tube

C.Adjustable Bracket

D.E40 thread Base

IEC 61215(ed.2)
EN 61215:2005
IEC 61730-1(ed.1);am1am2
EN 61730-1:2007/A2:2013
IEC 61730-2(ed.1);am1
EN 61730-2:2007/A1:2012

IEC 61215(ed.2)
IEC 61730-1(ed.1);am1am2
IEC 61730-2(ed-2);am1
PPP 58042B:2015

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EN 61730-1:2007/A2:2013
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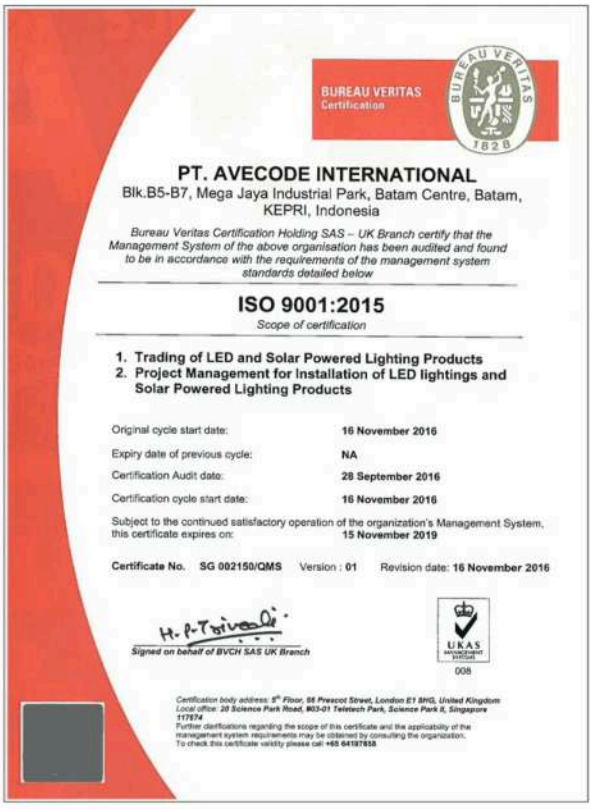
IEC 61730-1(ed.1);am1am2
IEC 61730-2(ed.1);am1
IEC 61701(ed.2)
IEC 62716(ed.1)

IEC 61215(ed.2)
IEC 61730-1(ed.1);am1am2
IEC 61730-2(ed.1);am1
IEC 61701(ed.2)
IEC 62716(ed.1)



BUREAU VERITAS
Certification

PT. AVECODE INTERNATIONAL
Blk.B5-B7, Mega Jaya Industrial Park, Batam Centre, Batam, KEPRI, Indonesia

Bureau Veritas Certification Holding SAS – UK Branch certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015
Scope of certification

1. **Trading of LED and Solar Powered Lighting Products**
2. **Project Management for Installation of LED lightings and Solar Powered Lighting Products**

Original cycle start date:	**16 November 2016**
Expiry date of previous cycle:	**NA**
Certification Audit date:	**28 September 2016**
Certification cycle start date:	**16 November 2016**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **15 November 2019**

Certificate No. SG 002150/QMS Version : 01 Revision date: **16 November 2016**

Signed on behalf of BVCH SAS UK Branch

UKAS MANAGEMENT SYSTEMS
008

Certification body address: 5th Floor, 66 Prescot Street, London E1 8HG, United Kingdom
Local office: 20 Science Park Road, #03-01 Teletech Park, Science Park II, Singapore 117674
Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.
To check this certificate validity please call: +65 64197858

ISO 9001:2015

BADAN PENGKAJIAN DAN PENERAPAN TEKNOLOGI
BALAI BESAR TEKNOLOGI KONVERSI ENERGI
Kawasan Puspiptek Serpong, Gd. 620-625, Setu - Tangerang Selatan 15314
Telp. : +6221-756 0916, 756 0092, 756 0550, Fax : +6221-7560904, Website : www.b2tke.bppt.go.id

KAN
LP-096-IDN

SERTIFIKAT UJI

No. Sertifikat : 2018076
No.Order : 11-106-2017-004

Identitas pelanggan
Customer Identification

Nama Manufaktur : PT AVECODE INTERNATIONAL
Alamat Lengkap : Kompleks High-Tech
Jl. Budi Kemuliaan, Blok VI, Lubuk Baja, Batam 29432
KEPRI-INDONESIA
Nomor Telepon : (062-778) 455315
Nomor Fax : -

Identifikasi Sampel Uji
Test Sample Identification

Nama Sampel Uji : LAMPU TENAGA SURYA TERPADU
Merek/Tipe : LPJU LED 40W 24VDC
Nomor Seri : -

Standar Uji
Test Standard

[x] SNI IEC 62124:2016
[ ] Sistem Fotovoltaik yang Berdiri sendiri-Verifikasi Desain

Keterangan :
Remarks
Sesuai Laporan Pengujian Laboratorium Pengujian Komponen dan Sistem Fotovoltaik, Balai Besar Teknologi Konversi Energi (B2TKE) – BPPT. *Corresponding to Test Report of PV Component and System Test Laboratory (LPKSF)-National Laboratory for Energy Conversion Technology (B2TKE) - BPPT*
No. 081/LAP.JA/TEK/B2TKE/BPPT/VII/2018, *tanggal July 12th, 2018*

Ketentuan:
Conditions
Sertifikat ini berlaku selama 2 (dua) tahun terhitung sejak tanggal diterbitkan, kecuali jika terjadi perubahan standar uji
The certificate has a validity of 2 (two) years since the date of issue, unless if there is a change in the test standard.
Dalam hal terjadi perubahan desain, bahan, komponen atau proses produksi, diwajibkan untuk uji ulang untuk memperoleh pengesahan.
Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.

Diterbitkan tanggal :
Date of Issue
July 12th, 2018

National Laboratory for Energy Conversion Technology (B2TKE)
Ka. Satker Manajemen PKSF,

Dr. Ir. Ali Akbar Rosyid, MSc

62100168

BP2TKE - BPPT

KEMENTERIAN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN DARAT
GEDUNG KARYA
JL. MERDEKA BARAT NO. 8
JAKARTA 10110
TELP. (021) 3506136, 3506129, 3506148, 3506143, 3862220
FAX (021) 3507202, 3506129, 3506149, 3506143, 3862179
email hubdat@hubdat.web.id
Home Page www.hubdat.web.id

KEPUTUSAN DIREKTUR JENDERAL PERHUBUNGAN DARAT
NOMOR SK. 4974 /AJ.003 /DJPD/2018
TENTANG
TANDA DAFTAR BADAN USAHA PENYEDIA BAHAN PERLENGKAPAN JALAN
(TD - BUPBPJ)

Diberikan Kepada :

Nama Perusahaan	: PT. AVECODE INTERNATIONAL
Alamat	: Komplek Mega Jaya Industrial Park Blok B No. 06 Kelurahan Baloi Permai Kecamatan Batam Kota Batam
No. Telp/ Fax	: 0778-4802794 / 0778-4802795
Penanggung Jawab	: Kim Ciau
Jabatan	: Direktur
Klasifikasi Bidang	: Alat Penerangan Jalan
Subbidang	:
Keterangan	: Panel Surya dan Luminer dengan Merek Industry CELESTA
Berlaku sampai dengan	: 23 Oktober 2023, dengan ketentuan akan ditinjau kembali apabila ternyata dikemudian hari terdapat kekeliruan didalam penetapannya

Kewajiban Badan Usaha Penyedia Bahan Perlengkapan Jalan tercantum di balik TD - BUPBPJ ini.

Ditetapkan di Jakarta
pada tanggal 23 Oktober 2018

DIREKTUR JENDERAL PERHUBUNGAN DARAT
DIREKTUR LALU LINTAS PERHUBUNGAN DARAT

HANDY YUNIANTO, ATD., M.Eng.Sc.
Pembina Utama Muda (IVc)
NIP. 196508061988031001

P5402100

TD-BUPBPJ

Untuk nilai luminansi rata-rata dan rasio kemerataannya adalah sebesar **1,02 Cd/m²** dan **1,22** seperti terlihat pada **Tabel 3** berikut :

Tabel 3 Nilai rata-rata luminansi dan rasio kemerataan untuk jenis lampu SES Lighting LT-T-032 / 120 Watt pada ruas B-C

PT. AVECODE INTERNASIONAL B-C		STANDAR AASHTO	Keterangan
Luminansi (L, Cd/m²)			
L Rata-Rata (Cd/m²)	1,02	0,40 - 1,00	Memenuhi
Kemerataan	1,22	3,50	Memenuhi

KESIMPULAN

- Nilai illuminansi rata-rata pada lampu penerangan jalan umum (PJU) di jalan Tol Pondok Aren – Serpong Km 11 + 400 dengan jenis lampu lampu **SES Lighting LT-T-032 / 120 Watt** pada ruas A-B adalah sebesar **13,93 lux** sudah memenuhi standar AASHTO minimal berkisar antara 6 – 12 lux; sedangkan nilai illuminansi rata-rata pada ruas B – C adalah sebesar **13,89 lux** dimana nilai tersebut juga sudah memenuhi standar AASHTO. Rasio kemerataan illuminansi untuk ruas A – B dan ruas B – C adalah sebesar 1,74 dan 1,71 juga sudah memenuhi standar AASHTO yaitu sebesar maksimal 3,00.
- Untuk nilai luminansi rata-ratanya adalah sebesar **1,02 cd/m²** juga sudah memenuhi standar AASHTO yaitu minimal berkisar antara 0,40 – 1,00 cd/m². Sedangkan rasio kemerataannya adalah sebesar **1,22** sudah memenuhi standar AASHTO untuk luminansi yaitu sebesar maksimal 3,50

Bandung, Agustus 2015

Manajer Puncak/ Kepala Balai Teknik
Lalu Lintas dan Lingkungan Jalan

Drs. Muhammad Idris, MT
NIP.196109241994021001

Sertifikasi\Pusjatan\BTL\lvg Hal. 2 dari 2

PUSJATAN

PRIVATE

- PT. Asia Coco Batam
- PT. EPSON Batam
- PT. JOVANTECH Batam
- PT. Kharisma Asia Makmur
- PT. Excelitas Technologies Batam
- PT. Philips Batam
- PT. Panasonic Batam
- PT. Bukit Granitmining Mandiri (Karimun-Kepri)
- PT. Riau Alam Anugerah Indonesia (Karimun-Kepri)
- PT. Borneo Purnama Teknologi
- PT. Wahana Trans Utama
- PT. Cargill Ketapang
- CV. Binanga

RESIDENTIAL

- ORCHARD PARK Batam (Agung Podomoro)
- BEVERLY HILLS (Batam)
- PARAGON HILLS (Batam)
- OSSELLA (Batam)
- TIBAN HILLS (Batam)

GOVERNMENT

- Pemkot. Ambon
- Pemda. Polewali Mandar (Sulawesi Barat)
- Pemda. Saumlaki (Maluku Tenggara Barat)
- Pemda. Mamuju (Sulawesi Barat)
- Pemda. Tangerang Selatan
- Pemda. Tanjung Balai Karimun
- Pemda. Luwuk (Sulawesi Tengah)
- Pemda. Bintan (Kepri)
- Pemda. Masohi (Maluku Tengah)

Sole Agent / Distributor for :

celesta ®

BY : PT. AVECODE INTERNATIONAL

www.celesta.co.id

RoHS IEC