PROJECT LED LIGHT STREET WITH SOLAR ENERGY

High Power LED solar street light: The system converts the sun energy into electricity and stores it to provide green illumination.

Luminaries utilize High Power white LEDs with superior thermal management design. These extremely durable fixtures are waterproof and designed for multiple applications including indoor and outdoor.

Luminaries are supplied fully assembled & ready for either retrofit or new installations.


Luminaries produce high quality white light @ 5500K color temperature which greatly enhances the nighttime visibility, color rendition & Scotopic (nighttime) visibility of the human eye.

Solar Lighting Applications:

- Area Lighting.
- Airport Lighting.
- Hospital Parking.
- Parking Lot lighting.
- Highway RoadWay Lighting.
- Street lighting.
- Security Light.
- Highway and ramp lighting.
- Bridge lighting, Under Pass lighting.
- Residential, Industrial, Commercial lighting.

Part 2 Benefits:

- Easy installation no wiring required.
- Installing and moving is easy no more waiting for the utility company!
- Proven technology. Vandal and theft-resistant components and hardware. All parts are corrosion resistant.
- Low installation cost.
- Easily and quickly deployed in almost any location.
- NO wiring run from the grid.
- NO cuts through existing roads, sidewalks or landscaping.
- NO Maintenance.
- NO Utility bill.
- Maintenance Free Batteries!
- Big Credits and Savings form State and Federal Taxes.
- Better Color Rendition & Nighttime Visibility.
- No Warm-Up or Cold Start Problems.
- Solar panel Component lifetime of 25 years.
- Two-year full system warranty.
**LED STREET LIGHT KEY CHARACTER**

1. Saving energy and money. The high power lens fixtures use less energy, helping to keep operating costs down. After three years, The City will regain the cost of installing the new fixtures from energy and maintenance savings. Expected life > 50K + hours; 3 year warranty.

2. Reducing greenhouse gas emissions. Using less electricity reduces the emissions produced by gas and 3. Coal-burning generators. When the IQLED Streetlights project is completed, carbon dioxide emissions will be reduced.

4. Reducing glare to increase visibility. Glare from street lights is significantly reduced with the new LED’s street-light fixtures, increasing visibility by directing light onto the roadway and preventing it from shining into the eyes of motorists.

5. Reduce excessive lighting and light pollution. New ways of designing and providing street lighting have been developed in the last several years.

6. Maintaining a safe level of lighting. Street lighting on residential and collector roads will continue to meet minimum Illuminating Engineering Society (IES) guidelines.

<table>
<thead>
<tr>
<th>Comparative classification</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Led street light</td>
<td>Equal to</td>
</tr>
<tr>
<td>30w Led street light</td>
<td>HQL 80w pressure mercury lamp</td>
</tr>
<tr>
<td>60 w Led street light</td>
<td>HQL170w pressure mercury lamp</td>
</tr>
<tr>
<td>100 w Led street light</td>
<td>HQL250w pressure mercury lamp</td>
</tr>
<tr>
<td>140 w Led street light</td>
<td>HQL400w pressure mercury lamp</td>
</tr>
</tbody>
</table>
Introduce: Type: GP-SL-56W
Input Voltage: DC12V/24V
LED power: 1W*56pcs
Typ.Lumen: 5300lm
Waterproof: IP65
Power Factor: ≥0.95
Life: 50,000H
Introduce:  Type: GP-SL-42W
Input Voltage: DC12V/24V
LED power: 1W*42pcs
Typ.Lumen: 4000lm
Waterproof: IP65
Power Factor: ≥0.95
Life: 50,000H
GP-SL-28W

Introduce:
Type: GP-SL-28W
Input Voltage: DC12V/24V
LED power: 1W*28pcs
Typ.Lumen: 1960-2250lm
Waterproof: IP65
Power Factor: ≥0.95
Life: 50,000H
SOLAR PANEL EVERBRIGHTSOLAR

PRODUCT DESCRIPTION

UL, CEC certified 185 watt solar panel Grade A

The 185 watt solar panels professionally made from 72 high efficiency mono crystalline solar cells are ideal for grid tied solar power generation. This is the main bread and butter solar panel from our UL approved on-grid series of solar panels that represents the best on-grid price/performance on the market. These panels are UL approved appear on the California Energy Commission (CEC) list, and they qualify for the rebates from the federal government credits and many other local government's solar inventive programs. There is a minimum purchase of 2 or these panels per order, due to its packaging.

The following are the key technical data of the solar panel, with a ±5% variance;

- Peak power: 185 watts
- Peak power voltage: 36.0 V
- Peak power current: 5.15 A
- Open circuit Voltage: 44.8 V
- Short circuit current: 5.50 A
- Maximum system voltage: 1000 V
SOLAR PANEL FEATURES:

* Made of high efficiency 125mm x 125 mm mono crystalline solar cells.
* UL approved Multicontact MC junction box rated at IP65.
* 3 bypass diodes minimize damage from hot spots from defective cells and shading.
* 36 inch long cables with male and female connectors for easy connections with other solar panels.
* anti-reflective coating provides uniform blue color and increases absorption of light in all weather conditions.
* High quality ultra white low iron solar glass for minimal light maximum light transmission.
* Solar glass is temped to harden against hail assault.
* Industrial strength double EVA encapsulation with TPT multilayer backsheet for the best protection against water, moisture, UV, and oxidation.
* Ultra sturdy extruded aluminum frame provides structural strength and holes drilled at the right places for easy mounting, and drain holes to minimize water build up behind solar panels.

Dimension of each solar panel: 32"x 62" x 1 3/4"

Weight: Each panel's net weight is about 16 kg, or 35.2 lbs.

Specifications

<table>
<thead>
<tr>
<th>Cell</th>
<th>Mono-crystalline silicon solar cells, 125mm square</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of cells and connections</td>
<td>72 in series</td>
</tr>
<tr>
<td>Application</td>
<td>DC 24V system</td>
</tr>
<tr>
<td>Maximum system voltage</td>
<td>1000V</td>
</tr>
<tr>
<td>Series fuse rating</td>
<td>10A</td>
</tr>
<tr>
<td>Maximum power</td>
<td>185W</td>
</tr>
<tr>
<td>Dimension</td>
<td>1580mm x 808mm x 35mm</td>
</tr>
<tr>
<td>Weight</td>
<td>16.00kg</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-40 to +90</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 to +90</td>
<td>°C</td>
</tr>
<tr>
<td>Dielectric voltage withstood</td>
<td>2200 max.</td>
<td>DC</td>
</tr>
</tbody>
</table>
SOLAR CHARGE CONTROLLER

HIGH QUALITY AND RELIABILITY IS NOW AVAILABLE IN A LOW COST SOLAR CONTROLLER. THIS CHARGE CONTROLLER IS DESIGNED WITH A MICROCONTROLLER FOR AUTOMATIC LIGHTING CONTROL FUNCTIONS.

FEATURES:

* Microcontroller digital accuracy
* PWM charge mode
* State of charge (SOC)
* Detects day and night using the PV array
* Suitable for all 12/24v DC
* Fully automatic operation
* Manual test capability
* Temperature compensation
* 16 field adjustable lightning & timer control options
* Electronic protection

PRODUCT DESCRIPTION

High quality and reliability is now available in a low cost solar controller. This charge controller is designed with a microcontroller for automatic lighting control functions.

Features:

* Microcontroller digital accuracy
* PWM charge mode
* State of charge (SOC)
* Detects day and night using the PV array
* Suitable for all 12/24v DC
* Fully automatic operation
* Manual test capability
* Temperature compensation
* 16 field adjustable lightning & timer control options
* Electronic protection
**THIS TECHNOLOGY PROVIDES:**

Proven reliability  
Precise lighting control  
PWM battery charging

**CHARGE CONTROLLER SPEC:**

Work Voltage: 12v  
Rated Charge Current: 10A  
Rated Load Current: 10A

**OPERATION:**

Digital LED display shows the 16 lighting options (by switch with 5 seconds)  
Number display, from 0 to 7, DC output.  
Number display, from 0. to 7. 1Hz output.  
Digital LED stop flash to confirm correct switch selection.  
10 minutes delay to make sure its real dark.

**DESCRIPTION OF SOLAR/ PHOTOVOLTAIC BATTERY:**

VRLA-AGM Deep Cycle Battery for Off Grid and Grid Tied Systems.

NEW release for the Sun Xtender solar battery product line: the 30H Tall battery size, a 12 volt option used in both grid tied and off grid renewable energy storage systems.

A low impedance solar battery design with excellent charge acceptance. There is no current limit with controlled voltage charging.

VRLA-AGM is a sealed, maintenance free deep cycle battery - no spilling or spewing, no watering and the option to operate on its side, on its end, or upright. Copper alloy terminals keep the Sun Xtender solar battery free from dissimilar metal corrosion and there is no exposure to lead.

Shipped fully charged and ready for installation. All Sun Xtender Batteries ship HAZMAT Exempt by land, sea & air.
The PVX-1530T Solar / Photovoltaic Battery
PVX-1530T Renewable Energy Storage Batteries

Sun Xtender Solar Series Batteries Manufactured by Concorde Battery Corporation

<table>
<thead>
<tr>
<th>Voltage</th>
<th>12 V.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Capacity Ampere Hours @ 25° C (77° F) to 1.75 Volts per cell - 24 Hour Rate</td>
<td>153 Ah</td>
</tr>
<tr>
<td>Weight</td>
<td>97 lb / 44 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sun Xtender® Solar Battery Part Number</th>
<th>Length (in)</th>
<th>Width (in)</th>
<th>Height (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVX-1530T</td>
<td>13.46</td>
<td>6.77</td>
<td>11.95</td>
</tr>
</tbody>
</table>

| Nominal Capacity Ampere Hours @ 25° C (77° F) to 1.75 volts per cell |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                          | 1 Hr Rate      | 2 Hr Rate      | 4 Hr Rate      | 8 Hr Rate      | 24 Hr Rate     | 48 Hr Rate     | 72 Hr Rate     | 120 Hr Rate    |
| 95 Ah                    | 120 Ah         | 124 Ah         | 136 Ah         | 153 Ah         | 167 Ah         | 173 Ah         | 179 Ah         |

Specifications of this solar / photovoltaic battery are subject to change without notice.
LUMATROL LOW VOLTAGE PHOTO CONTROL / 12 VOLT / 10 AMP / SWIVEL

Specifically designed for a 12 volt DC or 24 volt AC/DC battery operated light source or low voltage control circuits.

Rated at 70° C to operate in high temperatures near solar modules.

Specifically designed for a 12 volt DC battery operated light source or low voltage control circuits. Ideal for corrosive locations, such as high salt and chemical areas.

Specifications:

- Housing: Weatherproof Lexan® housing
- Photocell: Silicon Sensor.
- Turn-on: 1 foot-candle.
- Turn-on/off Ratio: 1:1.5
- Time Delay: 5 seconds off only.
- Switch Type: Single-pole, single-throw. Contact position at night normally closed.
- Temperature Range: -40° to 158°F.
- Lead Wire: Moisture proof, color coded lead wire. Wire length: 6 inches.
- Threaded Stem: LCS Series has a 1/2 inch-14 thread, and fits 1/2 inch knockout.
- Dimensions: 4-1/8” overall height, 1-3/4” wide, 1” deep.

Qty: 1
LCS SPECIFICATIONS - LOW VOLTAGE PHOTO CONTROLS

Housing: Weatherproof Lexan® housing.

Photocell: Silicon Sensor

Turn-on: 1 foot-candles.

Turn-on/ off Ratio: 1:1.5

Time Delay: 1 to 5 seconds off only.

Switch Type: Single-pole, single-throw. Contact position at night normally closed.

Temperature Range: -40° to 158°F

Lead Wire: Moisture proof, color coded lead wire. Wire length: 6 inches.

Load Rating: 10 AMPs non-inductive

DIMENSIONS

LCS Series 3-1/2" long, 1-1/4" wide, 1/4" deep.

Wiring Diagrams for Low Voltage Photocontrols

24 VAC Wiring Diagram
Red - Load
Black - Line
White - Neutral

48, 24 & 12 VDC
For DC Wiring Applications Only
Color Coded Leads
Red - (+)
Black - (–)
Orange - Load
All these products are available at www.LedsOnline.ca

Products using Voltages higher than 42.8V not certified UL or CSA cannot be sold to Canada.

Contacts:
Sales: sales@LedsOnline.ca
Informations: info@LedsOnline.ca
Support: support@LedsOnline.ca