

# High Intensity Solar Lighting Systems

by Solar Online Australia

Solar lighting is a clean, effective solution for sites where the cost or environmental impact of grid power installation is prohibitive.

Solar Online Australia design, manufacture and install solar lighting for the illumination of streets, parks, walkways, jetties and a variety of other public spaces.



## System Operation

Our lighting systems are fully automatic. DC electricity is generated by the solar panels which passes through a solar regulator / controller which monitors and controls the charge to the batteries. This unit ensures the batteries are charged in the most effective manner and prevents overcharging and excessive discharging of the batteries promoting long battery life.

The light turns on automatically at sunset and will remain on for the selected run-time period. The controller allows selection of light interval regimes to suit the application.

## Luminaires

A choice of high efficiency lamps and light fittings are available. These include compact fluorescents, LED, T5



fluorescents and high intensity discharge (HID) lamps in a variety of fittings.

The HID lamps provide an average output of 3300 lumens with a high colour temperature of 4250°K. Eighty percent of full light output is available within 6 seconds of ignition and, when installed in our street light fittings, the lamps provide a wide spread of light suitable for parks, pathways and a other area lighting applications.

## Power System

The high quality solar modules supplied with our lighting systems are backed by a 25 year performance warranty. Their durable construction and high output will provide many years of reliable service.

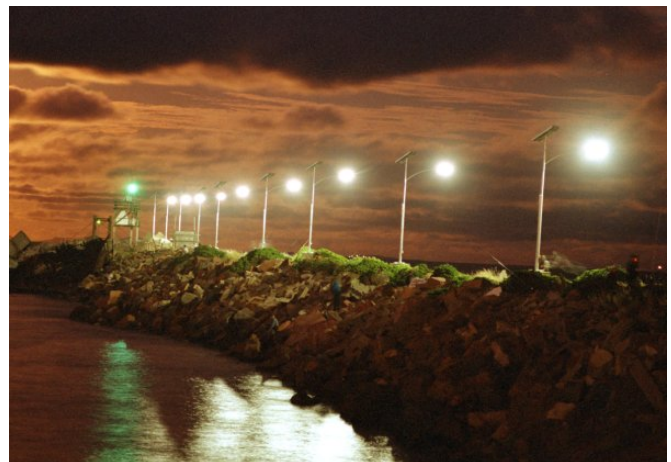
The solar regulator / controllers utilise pulse width modulation technology to maximise the charge received by the batteries. On larger systems, maximum power point trackers are utilised to boost solar input to meet the larger power demands.

High quality, sealed, maintenance-free AGM deep cycle batteries are used to ensure long service life, maximum performance and reliability.

## Pole Structure

Our standard systems incorporate hot-dip galvanised cantilever pole structures for ease of access to lighting and solar components. This alleviates the need for a 'cherry-picker' to perform inspections of servicing.

Out-reach arms and heavy duty solar panel mounts feature 360° orientation adjustment for maximum performance. Tamperproof screws and bolts are used where possible to prevent unauthorised access. A shrouded pad lockable tab is provided to prevent unauthorised lowering of pole.



## Typical System Specifications

### **Solar Streetlight – All Night Operation**

Typical Total Lamp Rating:	30W
Comparable Light Output:	>80W MV
Typical Installed Solar Capacity:	185W
Back-up Battery Reserve:	5 Days
Luminaire Height:	6.0m
Total Pole Height:	7.5m
Solar Panel Performance Warranty:	25 years
Balance of System Warranty:	1 year

Batteries are housed in either a hot-dip galvanised box set in the concrete footing, or a powder coated steel enclosure mounted near the base of the pole.



### Benefits

- increases public safety and aids in providing a safe working environment in areas where mains power is difficult to access
- eliminates expensive mains cable installation costs
- eliminates any associated electricity bills
- fully automatic operation
- high quality construction and components
- designed for easy servicing and maintenance where required
- Environmentally friendly energy production

## Simple Cost Payback Analysis

The following points should be considered when calculating the time taken to recover your investment in solar powered technology over a traditional grid powered system:

- Cost of trenching from grid supply to lighting system
- Cost of cable and conduit
- Cost of replacing concrete, asphalt or landscaping
- Cost of electrical infrastructure upgrades
- Savings on energy usage bills



### Contact Information

For more information on these systems or any of our other products and services please contact:

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