

## SOLAR STREET LIGHTS

Photovoltaic energy is the best solution for public lighting in areas which are isolated from the electrical grid, or where its use is expensive or difficult.

A public lighting system using a stand-alone street lamp is composed with the following elements.

### 1.- BRIEF DESCRIPTION OF THE SPARE PARTS

**Photovoltaic modules:** usually one module of 120 or 130 Wp is used, but if necessary 3 modules can be installed.

**Batteries:** the system uses two batteries 210 Ah-6V (for 12 V system). No maintenance is needed, and they have a long life of about 15 years.

**Regulation and control system:** the street lighting regulation and control system has been specifically designed for solar street lights. It employs a micro-controller for battery charge/discharge management. The twilight switch allows a timed consumption output in function of the amount of sunlight. System programming provides a control that is able to automatically adapt itself to the various possible situations, enabling the user to adjust the time of connection, in accordance with the consumption.



Physical specifications of the regulator		
Height	215 mm	
Width	155 mm	
Length	82 mm	
Weight	0.7 Kg	
Isolation	IP-56	
Electrical specifications		
Rated consumption	20 mA	
Best resolution at measurements	1%	
Rated voltage	12-24 V	
Maximum consumption current	10 A	
Maximum load current	10 A	
Final load voltage at 25°	12 V	24 V
C100	14.5 V	29 V
C50	14.6 V	29.2 V
C20	15 V	30 V
C10	15.1 V	30.2 V
Initial floating range at 25°C (*Note 1)	13.6 V - 13.9 V	27.2 V - 27.8 V
Re-entry regulation & floating at 25°C	12.9 V	25.8 V
Load reconnection at 25°C:	12.5 V	25 V

Load disconnection at 25°C (*Note 2)	12 V	24 V
C100	11.4 V	22.8 V
C50	11V	22 V
C20	10.9 V	21.8 V
C10	10.8 V	21.6 V

\*Note 1: Additionally, in function of the battery load log.

\*Note 2: The low voltage alarm shall be 0.05 V/element.

**Light spole:** the most usual kind of illumination that we need is the fluorescent lamp PL 36 or one of 35 W of sodium vapor. The lamp and the reactance are into the spole in order to be protected.

**Pole:** made of steel and designed to support the wind charge. The batteries and the control equipment are in the basis. The pole has also one arm to put the photovoltaic modules. It is finished with a complete galvanization to be protected against the environmental damage and it can also be painted to make its implantation more elegant. The room for the batteries also has a security system.

## 2.- INSTALLATION AND MAINTENANCE

The complete system of our solar street lights is very simple, easily and quickly installable and without maintenance needed.

**Foundation:** 0.8 x 0.8 x 0.8 m.

**Installation:** It's very easy and it only takes about 30-45 minutes for each solar street light. It's not necessary to use a crane.



**Maintenance:** The batteries do not need any maintenance. It is one of the advantages that our system has. Because, although the maintenance of the traditional batteries is too easy, our experience taught us that it is never made in the correct way. The result of this is that the customers say that it does not work at all. With our system, we avoid that kind of complains.

## 3.- ADVANTAGES OF OUR SYSTEM OF STREET LIGHTING

- Very easy and quick installation.
- No maintenance needed.
- The batteries are installed in the foundation, so they can not be stolen.
- The batteries have a very long life: about 15 years. The traditional batteries only have between 7-10 years.
- The place can be changed when the customer wants. It only needs a new foundation.

The manufacturer has the right of modifying the technical characteristics contained in this booklet, without preliminary notification.

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