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Technical Specifications

Of

Solar LED Street Light

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Solar Energy for Today … And Tomorrow

LED SOLAR STREET LIGHT

The Solar street light operates from Dusk to Dawn i.e., the lamp automatically switches ON after the sunset and switches OFF after sunrise.

The street lighting system basically consists of:

a) SPV Module
b) Low maintenance battery
c) Luminaire
d) Pole
e) Battery box
f) Interconnecting cables

The SPV module is fixed firmly on top of the pole with suitable tilt and inclination so as to receive maximum sunlight through out the day. The SPV module thus produces suitable voltage and current, which is used to charge the battery inside the battery box. This energy stored in the battery is used to light up the 7.2 Watts LED which is housed inside the luminaire during night time.

Energy efficient LED lamps of atleast 7.2 Watts with 15 Lux, an inverter and charge controller card, which is used to convert the stored DC energy in the battery to suitable AC voltage to ignite the LED. A reflector is provided in the luminaire to increase and spread the light uniformly. Auto dim mode after 4 hours.

The charge controller protects the battery from over charge and deep discharge.

The SPV module, luminaire and the battery box are fixed on to the Pole and are interconnected through the cables. The solar street light operates in the stand alone mode.

The battery is housed inside a battery box, which is fixed on to the pole at a suitable height from the ground for easy maintenance and replacement. The battery provided is low maintenance tubular lead acid type. This requires minimal maintenance and has a long life with regular use. Periodical maintenance of the battery includes topping up distilled water once in 2-3 months and applying petroleum jelly to the terminals to prevent corrosion.

SPECIFICATIONS

The Street lighting system shall be equipped with the following:

- 12V-40Wp Solar Module
- Energy efficient LED lamps of atleast 7.2 Watts with 15 Lux. 12 feet spread.
- 02 nos of low/negligible maintenance batteries of 12V-15Ah (minimum) in a suitable enclosure.
- 4.0 Meter MS pole with pedestal/mounting accessories
- Automatic On/Off operation
- Any other accessories not explicitly mentioned here but required for completion of the work and proper functioning of the street lighting system.

Solar Module:
MNRE approved, high efficiency, mono/multi crystalline silicon cells. Solar module of 12-40Wp (LED) with I-V curve, designed to withstand tough environment conditions with a test certificate from SEC/ETDC/ERTL.

Luminaire:
Luminaire with transparent acrylic cover, housing a high efficiency 7.2 Watts LED lamp that has a least 100 lumens per Watt shall be fitted with gasket and accessories for weather and insect proof operation.

Street Light Characteristic:
Luminaire design shall be such that the lighting area covered along the road is more compared to across the road i.e. atleast 15 Lux at 20 feet distance from the pole along the road and at least 15 Lux at 15 feet distance from the pole across the road.

Battery:
12V-15Ah – 02 No.s sealed maintenance free batteries, designed for repeated cyclic operations. Its location should be nearer to top of the Pole and should be enclosed in a cabin that has pilfer proof lock & key arrangement through special allen key.

Pole:
The 04 MR pole must be made of MS and painted with corrosion resistant paint. The pole shall be heavy duty and suitable for rural applications.

Input Power Consumption:
7.2 Watt (LED)

Input Operating Voltage:
12 VDC nominal system voltages

Light Output:
Minimum of 09 LUX at a height of 12 feet