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ENERGY

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LIGHTING AFRICA

Betta Street Light

BETTA. STREET LIGHT



The Betta Street Light is a robust external street light.

It can be used for residential areas without any electricity or to replace existing grid power with solar

Betta Street Light

Aluminium Light Head Housing with 4 x 5Watt LED's



**2 x 65Watt Solar Panels
2 x Battery Boxes with
2 x 22Ah Lead Crystal Batteries with Tamper Proof Brackets**



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ATTRIBUTES

Light Distribution

The 20 watt Betta Street Light has a light distribution of 50 meters parallel to the street if erected at 5-6 meters.

Light Housing

The 4 x LED lights and it's 1 x controller unit are mounted in a solid aluminium housing to act as a heat sync and to endure severe outside temperatures. Expected life of the LED = 20,000 hours.

Light Brightness

Light output is measured at 1600 lumens and 6 LUX average over the total distribution area and 25 lux direct under the light head at a height of 5m.

Power Replenishment and Consumption

The power system is optimally balanced and replenishes energy to the batteries through 2 x 65 watt solar panels; while the 4 x 5 watt LED lights consume 23 watt of power.

An indication of the systems robustness is that the light will be fully functional for 40 hours when the charging function is disabled and replenish the battery power in 2,4 hours of sunlight, with the assumption that there are 4,9 hours of sun available.

Batteries

The system makes use of 4 x 22 AH 12 volt led crystal batteries. These batteries can handle heat up to 65 degrees C, can be depleted 100% and will take charge thereafter, recharge 2-5 time quicker than other led acid battery technologies with a life expectancy of 7-10 years.

Bracket System

The system is easy to install by making use of a single size spanner only. Because of the expensive nature of the batteries and solar panels, effective anti-tamper measures are built into the system. The bracket system is available in stainless steel or mild steel and is E-coated and powder coated against any form of corrosion. The bracket can adjust to optimise panel efficiency for a specific geographical area and is suited for any location in Africa.

Mounting Pole

The mounting pole should have a top carrying capacity of 90kg and a top diameter of 76mm.

The system is supplied with all components and fasteners as a workable solution to the distributor channel without the pole. Installers will quote the client for a full system including the pole.

ASPECT	SPECIFICATION	ASPECT	SPECIFICATION
Light output in lumen	1,600	Battery warranty	3 years
Average lux over area	6	Expected battery life in this application	7-10 years
Lux on ground level at focus point	18 lux, light 6 meter above ground level 25 lux, light 5 meter above ground level	Expected battery cycles at 33% DOD	2600
System Operating Temperature	-15 degrees to + 60 degrees	Expected battery cycles at 50% DOD	2000
Suggested lamp height in meters	5-6	Expected battery cycles at 80% DOD	950
Coverage length // street in meters	50(+/-25)	Expected battery cycles at 100% DOD	400
Coverage length 90 degrees to street in meters	14	Bracket Set Material	3CR2 stainless steel E-coated and UV resistant powder coated or mild steel
Qty LEDs	4	Bracket set adjustable to optimise panel efficiency	Yes
Expected LED life in hours	20,000	Adjustment angles	7,5 degrees to 58 degrees form horizontal
Panel watt	65	Bracket set galvanic corrosion protected	Yes, passive insulation
Qty of Panels	2	Light extension arm	Steel, hot dip galvanised
Panel warranty	3 years	Battery box insulation	False roof and polyurethane foam insulation
Expected panel life at 20% wattage degradation	25 years	Light power consumption	23,1
Hail impact resistance	227 g steel ball, 1m high	Full sun hours needed to replenish One days consumption	2,4
Panel operating temperature	-40°C to +90°C	Light dim option available	Yes, defined on order, dim % and hours from dusk
Charge controller warranty	3 years	Light on/off at dusk/dawn	Yes. Use panel output to activate switch
Qty of batteries	4	Overcharge protection	Yes
Battery AH @ 12 volt	22AH each	Over Discharge protection	Yes
Nominal system voltage	24 (2X Batteries in//, and 2 sets in series)	Light can be set to go on/off at specific intervals during night	Yes
Battery Type	Deep cycle, led crystal, sealed, maintenance free	System weight in kg, mounted on top of pole	96
Battery operated temperature	-40°C to +65°C	Wind resistance area in sqm	1,5m ² at angle and 0,5m ² vertical face

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