



*The new generation Solar Lighting
Solution build with a fibre glass
structure*

The new

**Betta Solar Street Light
Solution**

Why the Fibreglass Pole structure?

- * It is a corrosion free structure; important for installations near coastal areas.
- * It is much safer than any galvanised or wooden pole installations during a car crash incident (it collapses without resistance like a solid pole structure; it can save peoples lives).
- * It is much lighter than traditional galvanised and wooden poles; therefore reduce the transport cost drastically.
- * Two people can carry the pole and therefore requires no special and expensive machinery to install the fibreglass poles. Once again reduce installation cost.
- * No concrete or civil works to install the pole is required; only a compactor process of the soil is used; once again save on the total cost for the solution.
- * The Betta GPRS/GPS modem cannot send its signals via any steel enclosures; installed in a fibre glass structure it will function properly.

Betta Solar Street Light Solar Panel Bracket System



Connection between pole and solar panel ; it can rotate 360 degrees

Fibre glass bracket to fit solar panel

I-Board with holes to extract heat and to protect solar panel against vandalism

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Fibre glass pole foot piece



Foot pieces
Water proof sealed
Foot pieces bolted on 4 sides

The foot piece is completely sealed and zero water can filter into the pole; it is also used to compact the soil on top of to create a solid structure without using concrete.

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Fibre glass pole top structure



Top structure of fibre
glass solar street light
solution

Holes to fit the solar
panel bracket

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Battery housing structure



Fibre glass constructed battery housing structure dumped 1.5m below the ground

Betta MPPT solar charge controller with wiring connections

Lead Crystal Batteries installed

Lead Crystal batteries features:
10 years expected life; can withstand up to 65 deg.C heat; can be discharged 100% and will recharged; no acid in the battery

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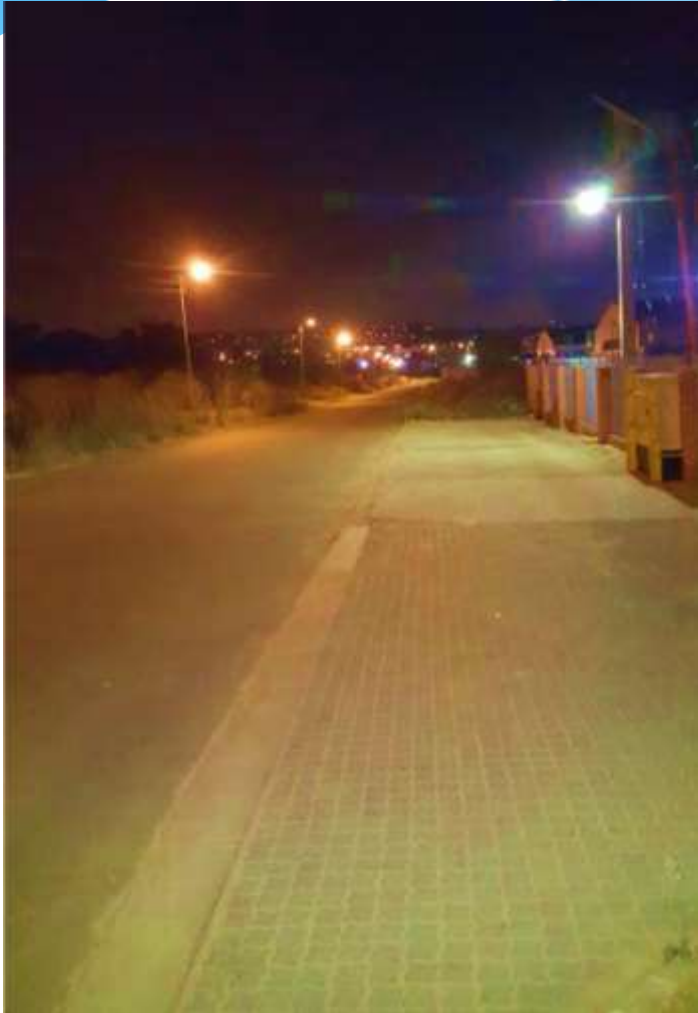
LSL30 Grah LED light 12volt



Grah design and manufacture
all the Audi, VW, BMW and
Mercedes Benz LED lights

LSL30 Grah LED light head.
12Volt .
26Watt.
Light spread 40m between poles.
Expected life of LED's = 60,000
hrs.
Lumens equal to a 125W vapour
sodium light bulb.

GRAH LSL30 light heads superior light distribution ability

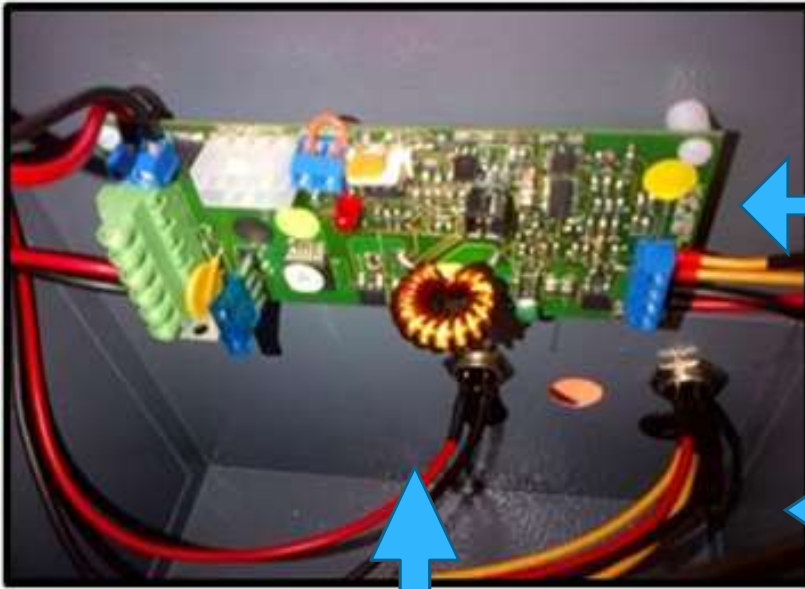


The 26W GRAH light head can distribute light better than any other light head tested due to new generation LED diodes used and with light specifically focus on the street surface

Pole can be planted 40m apart from one another

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Betta MPPT Solar charge controller



It can withstand severe heat of up to 100 degrees C

It switch ON at night and OFF during the day with intelligence built into the charge controller

Open circuit protection without battery or load. When a PV panel is fully operational and in full sunlight, and plugged into the unit, without a battery or a load connected to it, the unit is not damaged, even if this condition continues permanently.

Betta Solar Street Light

Solar Panels



Betta Lights only
use SolarWorld
PV panels

Key features:

- High-performance mono crystalline cell structure
 - 25-year linear performance guarantee
 - 10-year extended product workmanship warranty
 - Stable aluminium frame for easy mounting and eight possible grounding locations
 - Extended cable lengths for easier installation
- Comply with quality management, environmental and occupational health and safety standards ISO 9001, ISO 14001, and OHSAS 18001.

GPRS/GPS modem technology for solar street lights



Remote management:

This technology is installed to manage & support large installations and to sign a SLA with the client

It is also used to view the status of each key component and make pro-active technical decisions.

What can be viewed remotely:

- Is the panel capturing energy according to the efficiency rating;

- Did the battery take load;

- Did the light work the previous night;

- An alarm will be activated when there is any form of vandalism.

New - Betta GPRS/GPS modem Communication technology



Communicate between solar system and call centre.

Check if solar panel is loading battery.

Check if battery did take load from PV.

Check if lights did work previous night.

Warning info send if vandalism is taking place.

summary

It is new,

It is light,

Cheaper transport, handling and installation cost,

It can be manufactured in all sizes, shapes and
colours,

It is corrosion free,

It is easy and quick to install.