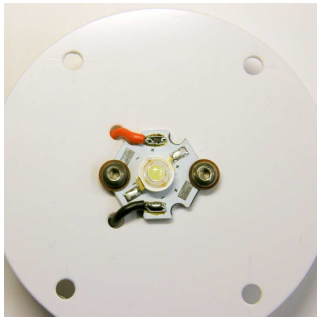
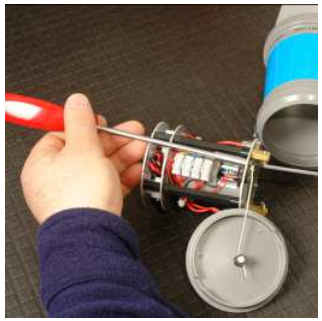
Fabrication of the LED-lamp MALI - *Light*

The lamps can be produced in small workshops with simple equipment.
You need a drilling machine, a soldering station and hand tools for manufacturing and assembling.
Auxiliary materials for serial production like drill templates and measurement equipment for quality testing are available on request.



EG-Solar e.V., Neuöttinger Straße 64 c
84503 Altötting, www.eg-solar.de
eg-solar@t-online.de
Tel. +49-8671-96 99 37 Fax -96 99 38

MALI - *Light* ®

Performance Data:

Lamp:

Lighting technology:	**LED with a lighting performance of 100 lumen light flux**
Lighting period:	**max. 12 hours (depending on the charge state of the rechargeable batteries)**
Charging time:	**6-7 hours with a solar module 2.5 Watt and maximum solar radiation**
Durability LED:	**100,000 hours of operation**
Weight:	**430 g**
Size:	**ø 90mm x 200mm**
Colours:	**green, red, yellow, blue**

Module:

Performance:	**2.5 watt (6.0 volt / 0.42 ampere)**
Weight:	**494 g**
Size:	**140 x 220 x 20 mm**

1 Module is sufficient for charging 2 Lamps alternately

Prices:

Lamp LED 10.2 fully assembled:		**59-- €**
Lamp LED 10.2 assembly set: upon request		
Solar module	(no assembly set)	**24,-- €**

Prices include sales tax and packing; additionally shipping costs

Bank Account
Kreissparkasse Altötting,
IBAN: DE 55 7115 1020 0000 0493 38
BIC: BYLADEM1MD

EG SOLAR

MALI – *Light*

SOLAR SYSTEM LED

Solar System LED 10.2

The importance of LED-solar lamps

At our project partners in the south nightfall comes quickly after the early sunset. Especially in rural areas there is a lack of nation-wide electrification; only about one third of the population is connected to a power supply and even if they are, black-outs are usual. People depend on candles and kerosene lamps for lighting.

Application of oil-based fuels and their problematic results

- The sooty flame contaminates the air and causes respiratory diseases.
- There is a high risk of fire hazard.
- Children are in danger of burning themselves by the open flame.
- One lamp burns about 3 liters of kerosene per month.
- The CO_2- emission is 2.52 kg per liter kerosene.
- Thus over the year 90 kg CO_2 are emitted by one lamp.
- Kerosene is quite expensive; hence people often do without light to save costs.
- A simple kerosene lamp generates only about 1 % of the light quantity of an electric 100 W bulb.
- The illuminated energy radius is only 30 - 40 cm wide.
- The light is hardly appropriate for reading and writing.

MALI - *Light* ®

Good reasons for the use of LED-solar lamps

- High-performance light-emitting diodes (LED) facilitate sufficient room lighting.
- The luminosity is adequate for reading and writing.
- Thus the chances for education are improved.
- The solar lamps are emission-free.
- Due to its intensity of light 1 **MALI**-*Light* substitutes 4 kerosene lamps and therefore may save 144 liters kerosene or 360 kg CO_2 per year.
- High-quality solar lamps are durable and thus cost-saving. The sun works on its own expense and won´t send us a bill.

The Solar System LED 10.2

is a mobile illumination unit with new LED lighting technology and eco-friendly rechargeable batteries (nickel-metal-hydride) **designed as robust construction.**

The lamp is shockproof and splash-proof as well as safeguarded against voltage reversal, overload, and short-circuit.

All used elements are commercially available and not special designs or injection moulded parts.

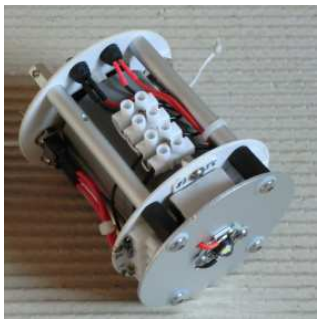
The casing is a plastic pipe joint with cover cap.

The lampshade consists of a plastic drinking cup.

The lamp is simple in its construction and requires little soldering.

There are no precast printed circuit boards integrated. All electronic connections are bolted together by premium quality lustre terminals.

All mechanical elements can be produced and assembled in a simply equipped workshop.



MALI - *Light* ®

The MALI *Light* was specifically engineered for reproduction in our partner workshops all over the world (in developing countries)**. It ideally adds to our range of products consisting of solar cookers, wood saving stoves and insulating baskets.**

The rechargeable batteries are not soldered in. They can be removed and replaced from the outside by the user of the lamp.

For the exchange of the rechargeable batteries a special service center is not required.

We use standard rechargeable batteries (AA or LR6)**, which are available everywhere.**

The manufacturers of the recommended batteries guarantee 1.000 charge cycles.
The durability of the rechargeable batteries is at least 4 years.
If the lamp is switched on for 12 hours the batteries have to be recharged only every third day. The durability is therefore considerably extended.

The lamp is provided with a discharge protection, which automatically disconnects at low voltage.
The **red LED** warning light illuminates.

The lamp can be switched on again only after the batteries have been fully recharged.