

Solar power by SUNSET

For a better quality of life and
a healthier environment



Solar power components by



SUNSET – Your solar partner

History

At the end of the 1970s the idea was born to create an environmentally friendly, renewable and free source of energy with the help of the sun's rays. Sunset, with its head office in Adelsdorf near Erlangen in northern Bavaria, was founded in 1979. Since then, SUNSET has pursued this goal consistently and with success. Through its pioneering work SUNSET has helped solar energy be recognised as a genuine alternative to conventional forms of energy. SUNSET solar has developed into a leading privately-owned company within this new industry.



Development

Meanwhile, solar technology has developed an independent source of energy. Thanks to rapid technological developments, solar energy is no longer only available for the privileged few: on the contrary, anyone, who wants to act responsibly for their future and for posterity, is now in the position to make a prudent and affordable contribution by using solar energy.



Prospects

SUNSET will continue to implement its founding ideas in the future, and will strive to improve solar technology as a professional product. The very high quality standards we set for our products are required for production in Germany. Our foreign production sites also comply to these stringent quality standards. Our European distributors and our branches around the world make SUNSET into a strong partner – now and in the future!



Dear customer,

We appreciate your interest in the solar energy. This forward looking and environmentally friendly energy source finds always more supporter and words of encouragement.

Despite our efforts to provide you always current documents, is this because of the permanently increasing renewal not always possible. If you should miss a special product in this catalogue, please contact us directly. We always try hard to follow your wishes.

Besides this catalogue for our stand-alone systems you can also request documents for the following topics:

- TH catalogue: thermal hot water systems and swimming pool absorbs
- NE catalogue: photovoltaic systems

If you have any questions, please do not hesitate to contact us. Our employees would like to be at your disposal. To save you from long waiting periods and unnecessary connections we have arranged the direct telephone numbers by choices of the most essential contact persons in our house for you.

We have established personal e-mail addresses for our employees so that we can faster and better react on your wishes. Please use this possibility of approach.

Your contact person for stand-alone systems

| Name | Division | E-Mail | Substation |
|--------------|--------------|---------------------------------|-----------------------|
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The direct dialling numbers for our employees in the departments solar thermal and consumer products you can get from our head office.



Solar stand-alone-systems

We plan and implement all kinds of photovoltaic systems for you. Many factors should be taken into account for consumers which are only used for the stand-alone-systems. For the ideal design there are essential two elementary factors to consider:

1. **How much electrical energy is required daily?** Calculate the daily energy requirement of all consumers. Plus the energy, that every consumer needs, the solar system also has an energy demand. So loading a battery needs more energy than a battery memory can set free. Also an inverter consumes energy when it is commutation. The system wiring enters an additional energy loss. All of these factors must be taken into account, if the solar system shall work reliably.
2. **How much energy are the solar generators delivering?** The energy output of the solar generators is dependent on location of the system, downtilt of the solar generators and local actuality, e.g. clouding, adjustment and so on. It is a decisive meaning for the planning, if the stand-alone-system only shall deliver energy within the summer months or whether the consumers must be provided also reliably in the winter half year.

Important in every stand-alone system is an efficient use of the produced energy. So should be absolutely respected, that only energy reducing DC - consumers are used.

An example: You save more than 60.000s watt-hours energy in a year, if you use 3 hours daily an energy economy bulb with 20 watts instead of an electric light bulb with 75 watts (at same brightness)! Through this the stand-alone system can be interpreted smaller and fundamentally inexpensive.

Also the interpretation of the battery memory is in stand-alone systems of decisive meaning. The choice of various battery types and capacities is largely. The right choice depends on many factors. So is e.g. at a system which is only in the use within the summer months, to interpret the battery capacity less. Important is, that special solar battery are used, which are interpreted for common charging cycles. We would like to advise you and put the right battery memory at your stand-alone system.

Determine the daily energy requirements of all consumers, which shall be provided by the stand-alone system, in accordance with your chart, at direct enquiries, please. Otherwise we can not offer you a reliably operating stand-alone system.

An example:

| DC - consumer | Input | Daily operating time | Consumption |
|---------------------|----------|----------------------|-------------|
| Energy saving lamps | 9 watts | 3 hours | 27 Wh |
| TV | 45 watts | 3 hours | 135 Wh |

Average daily DC - consumer: = 162 Wh
 Addition for the battery and system losses (20%): + 33 Wh
 Average daily DC need: = 195 Wh

| AC – consumer | Input | Daily operating time | Consumption |
|----------------|-----------|----------------------|-------------|
| Coffee machine | 800 watts | 0,25 hours | 200 Wh |
| Computer | 40 watts | 4 hours | 160 Wh |

Average daily AC – consumer: = 360 Wh
 Addition for the battery and system losses (20%):* + 72 Wh
 Average daily AC need: = 432 Wh

Daily complete energy requirement (DC need + AC need): 627 Wh

* The inverter has to be completely turned off, otherwise further unnecessary power consumption is carried out there.

In our example system the solar generators must be able to produce approx. 627 Wh energy daily. The so determined daily energy requirement is decisive for the system costs. Determine this value therefore very conscientiously, please. If the value transmitted to us is too low, the system cannot work failure for certain. If it is calculated too highly, the system costs increase unnecessarily.

Small modules – frame version

SM 6/36 – Item No. 10007.1
SM 10/36 – Item No. 10000

SM 15/36 – Item No. 10031
SM 20/36 – Item No. 10014

SM 30/36 – Item No. 10033
SM 45/36 – Item No. 10022

Manufacturer SUNSET

Solar generators **SM 6/10/15/20/30** and **SM 45** have been developed especially for the use in private and industrial appliances with low power demand (e.g. battery top-up charging, independent power supply for mobile weather stations, lighting for weekend chalet, independent power supply for pumping systems etc.).

The used monocrystalline silicon cells achieve a peak power of 6, 10, 15, 20, 30 or 45 Wp. The solar cells are textured and non-reflective. They are sandwiched within the laminated module in soft EVA plastic (ethylene-vinyl-acetate). This guarantees water resistance and UV stability as well as electrical insulation and allows thermal expansion.

SM 10



SM 45



The front cover of SM serie of hardened very clear special glass is extremely light-permeable and robust. The Tedlar plastic reverse side is strongly bonded to the glass layer. Anodized aluminium L-profiles from the warp resistant module frame in which the laminate is enclosed makes universal mounting simple. Thus the SM solar modules are well protected from mechanical and climatic influences. The electrical connection for these modules is done with a sealed connection box and a 0.5 m cable (SM 15 = 1 meter).

| Technical specifications | | SM 6/36 | SM 10/36 | SM 15/36 | SM 20/36 | SM 30/36 | SM 45/36 |
|--------------------------------|-------------------|---------|----------|----------|----------|----------|----------|
| Rated power P_{max} | [W _p] | 5.5 | 10 | 15 | 20 | 30 | 45 |
| Rated current I_{MPP} | [A] | 0.32 | 0.58 | 0.87 | 1.16 | 1.74 | 2.55 |
| Rated voltage U_{MPP} | [V] | 17.3 | 17.2 | 17.3 | 17.2 | 17.3 | 17.6 |
| Short circuit current I_{SC} | [A] | 0.36 | 0.64 | 0.96 | 1.28 | 1.93 | 2.78 |
| Open circuit Voltage U_{OC} | [V] | 20.8 | 20.8 | 20.8 | 20.8 | 20.8 | 20.9 |
| Length | [mm] | 303 | 434 | 444 | 685 | 685 | 640 |
| Width | [mm] | 152 | 234 | 294 | 340 | 340 | 530 |
| Height | [mm] | 20 | 20 | 20 | 20 | 20 | 20 |
| Height of terminal box | [mm] | 12 | 12 | 12 | 12 | 12 | 12 |
| Weight | [kg] | 0.72 | 1.3 | 1.48 | 2.7 | 2.7 | 4.2 |

Performance warranty:
10 years power output warranty *)

W_p = peak power under test conditions:
Air Mass $AM = 1,5$
Insolation $E = 1000 \text{ W/m}^2$
Cell temperature $T_c = 25^\circ\text{C}$

*) by SUNSET warranty conditions

Technical specifications subject to alterations with out prior notice; errors excepted

Small modules - laminated

SM 10L/36 - Item No.10000.2

SM 30L/36 - Item No.10034 SM 45L/36 - Item No.10023

Manufacturer SUNSET

Solar generators **SM 10L/36**, **SM 30L/36** and **SM 45L/36** have been developed as laminated modules (without frame) especially for the use in small and middle private and industrial appliances (e.g. battery top-up charging, independent power supply for mobile weather stations, lighting for weekend chalet, independent power supply for pumping systems etc.).

The used monocrystalline silicon cells achieve a peak power of 10, 30 or 45 Wp. The front cover consists of high quality plexiglas used as solar glazing, and an aluminium and plastic composite used for the back plate.

The high quality materials allow the module to be bent slightly to fit curved surfaces.

The electrical connection for this module utilises a sealed connection box with a 0,5 m cable.

| Technical specifications | | SM 10L/36 | SM 30L/36 | SM 45L/36 |
|--------------------------------|-------------------|-----------|-----------|-----------|
| Rated power P_{max} | [W _p] | 10 | 30 | 45 |
| Rated current I_{MPP} | [A] | 0.58 | 1.74 | 2.55 |
| Rated voltage U_{MPP} | [V] | 17.2 | 17.3 | 17.6 |
| Short circuit current I_{SC} | [A] | 0.64 | 1.93 | 2.78 |
| Open circuit Voltage U_{OC} | [V] | 20.8 | 20.8 | 20.9 |
| Length | [mm] | 460 | 681 | 645 |
| Width | [mm] | 235 | 336 | 538 |
| Height | [mm] | 13 | 8 | 12 |
| Height of terminal box | [mm] | 12 | 12 | 12 |
| Weight | [kg] | 0.5 | 1.28 | 2.2 |

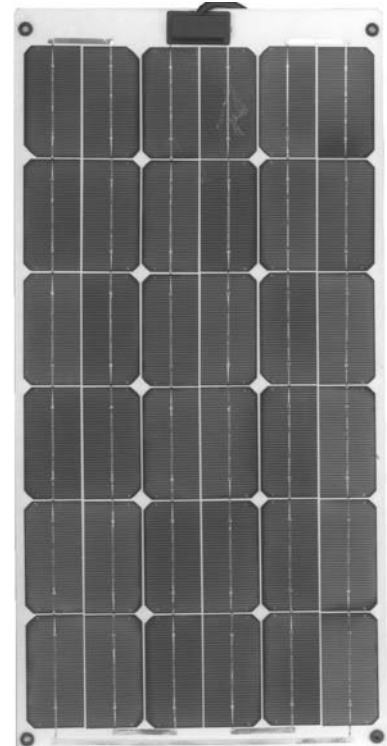
Performance warranty:
25 years power output warranty *)

W_P = peak power under test conditions:
Air Mass AM = 1,5
Insolation E = 1000 W/m²
Cell temperature T_C = 25°C

*) by SUNSET warranty conditions

Technical specifications subject to alterations with out prior notice; errors excepted

SUNSET SM 30 L



SUNSET SM 45 L



AS 6506 / AS 8005

Item No. 10030

Item No. 10002

Manufacturer SUNSET

Module **AS 6506** consists of 36 half cells 6"

Module **AS 8005** consists of 36 cells 5"

The cells are made of monocrystalline silicon and distinguish themselves by particularly high electricity output, even on cloudy days. The total power amounts to 65 respectively 80 watts.

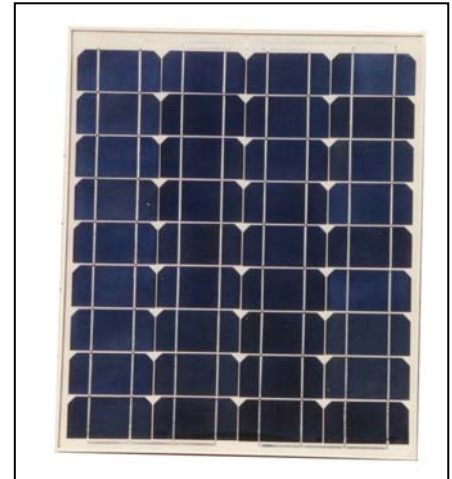
The tried and tested module design protects the solar cells against moisture, gives UV stability, and allows for thermal expansion. The front covering is made of top quality tempered solar glazing. The solar glazing and the solar cell laminate are joined together into a unit and mounted in a torsion resistant frame, made of anodized aluminium.

Thus modules are well protected from mechanical and climatic influence.

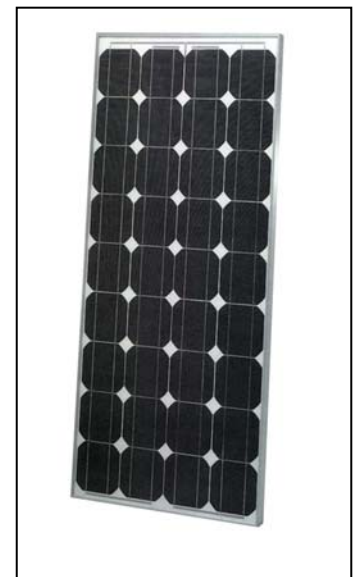
The electric connection is housed in a weatherproof wiring box at the back into which also the protective diodes are integrated.

The solar generators is used in small solar arrangements and also in off-grid house and telecommunication applications. Because of the high current this module type is very well suited to battery charging.

AS 6506



AS 8005



| Technical specifications | | AS 6506 | AS 8005 |
|--------------------------------|-------------------|---------|---------|
| Rated power P_{max} | [W _p] | 65 | 80 |
| Rated current I_{MPP} | [A] | 3.75 | 4.6 |
| Rated voltage U_{MPP} | [V] | 17.3 | 17.3 |
| Short circuit current I_{SC} | [A] | 4,1 | 4.95 |
| Open circuit U_{OC} | [V] | 21.2 | 21.5 |
| System voltage | [V] | 600 | 600 |
| Length | [mm] | 778 | 1200 |
| Width | [mm] | 660 | 526 |
| Height | [mm] | 35 | 35 |
| Weight | [kg] | 7.5 | 8.2 |

Performance warranty: 25 years power output warranty *)

WP = peak power under test conditions:

Air Mass AM = 1,5

Insolation E = 1000 W/m²

Cell temperature TC = 25°C

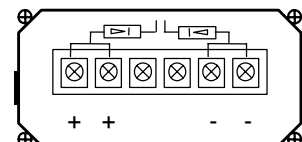
*) by SUNSET warranty conditions

Junction box

Cable gauge: max. 4 mm²

Protection class: IP 54

Waterproof conduit connector
PG 16



Technical specifications subject to alterations with out prior notice; errors excepted



**Pump station in
Southern Afrika**

**Hospital station
in Southern Afrika**



**PV-System for a tele-
communication system
in Southern Afrika**

AS 110 / AS 120 / AS 130

Item No. 10249

Item No. 10228

Item No. 10046.2

Manufacturer SUNSET

The solar generators AS 110, AS 120 and AS 130 achieve their high power output with 36 high efficient 6" single-crystal silicon solar cells.

The solar cells are wired together in two strings, each protected by a bypass diode against damage through hot spots.

The tried and tested module design protects the solar cells against moisture, gives UV stability, and allows for thermal expansion. The front covering is made of top quality tempered solar glazing. The solar glazing and the solar cell laminate are joined together into a unit and mounted in a torsion resistant frame, made of anodised aluminium.

The modules are produced to strict quality standards.

| Technical specifications*) | | AS 110 | AS 120 | AS 130 |
|--------------------------------|-------------------|--------|--------|--------|
| Rated power P_{max} | [W _p] | 110 | 120 | 130 |
| Rated current I_{MPP} | [A] | 6.6 | 7.1 | 7.6 |
| Rated voltage U_{MPP} | [V] | 16.7 | 16.9 | 17.2 |
| Short circuit current I_{SC} | [A] | 7.2 | 7.7 | 8.2 |
| Open circuit U_{OC} | [V] | 20.7 | 21 | 21.4 |
| System voltage | [V] | 800 | | |
| Length | [mm] | 1480 | | |
| Width | [mm] | 660 | | |
| Height | [mm] | 35 | | |
| Height (with box) | [mm] | 35 | | |
| Weight | [kg] | 11.7 | | |

Manufacturing

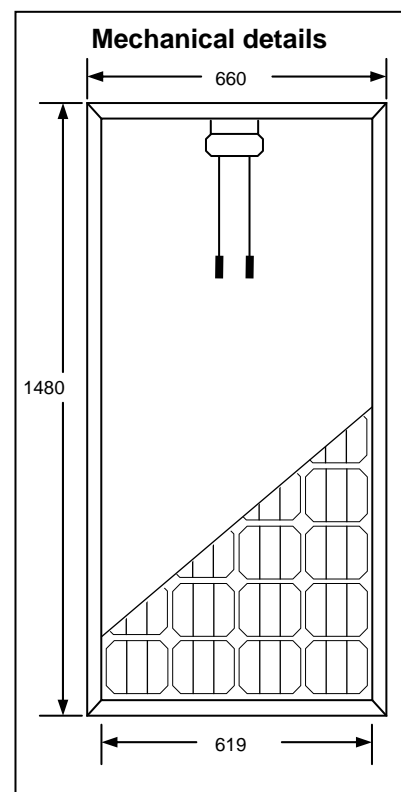
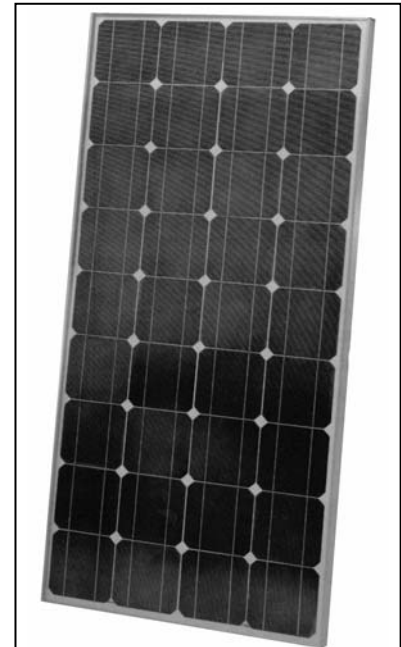
According to IEC 61215 and ESTI Ispra
IEC 61730 pending

Performance warranty:
25 years power output warranty *)

WP = peak power under test conditions:
Air Mass AM = 1,5
Insolation E = 1000 W/m²
Cell temperature TC = 25°C

*) by SUNSET warranty conditions

Junction box
Cable Dimension : max: 4 mm²



Technical specifications subject to alterations with out prior notice; errors excepted

AS 150 / AS 160 / AS 170

Item No. 10204

Item No. 10205

Item No. 10255

Manufacturer SUNSET

72 high efficient single crystal silicon solar cells are used in the AS 150, AS 160 and AS 170 solar generators. The solar cells have an anti-reflecting surface increasing optical efficiency.

The solar cells are wired together in three strings, each protected with a bypass diode against damage through hot spots.

The tried and tested module design protects the solar cells against moisture, gives UV stability, and allows for thermal expansion. The front covering is made of top quality tempered solar glazing. The solar glazing and the solar cell laminate are joined together into a unit and mounted in a torsion resistant frame, made of anodised aluminium.

The modules are produced to strict quality standards.

| Technical specifications*) | | AS150 | AS160 | AS170 |
|--------------------------------|-------------------|-------|-------|-------|
| Rated power P_{max} | [W _p] | 150 | 160 | 170 |
| Rated current I_{MPP} | [A] | 4.4 | 4,6 | 4.82 |
| Rated voltage U_{MPP} | [V] | 34 | 35 | 35.2 |
| Short circuit current I_{SC} | [A] | 4.8 | 5.3 | 5.35 |
| Open circuit voltage U_{UC} | [V] | 43.4 | 43.5 | 44.1 |
| System voltage | [V] | 800 | | |
| Length | [mm] | 1620 | | |
| Width | [mm] | 814 | | |
| Height | [mm] | 35 | | |
| Height (with box) | [mm] | 35 | | |
| Weight | [kg] | 14.5 | | |

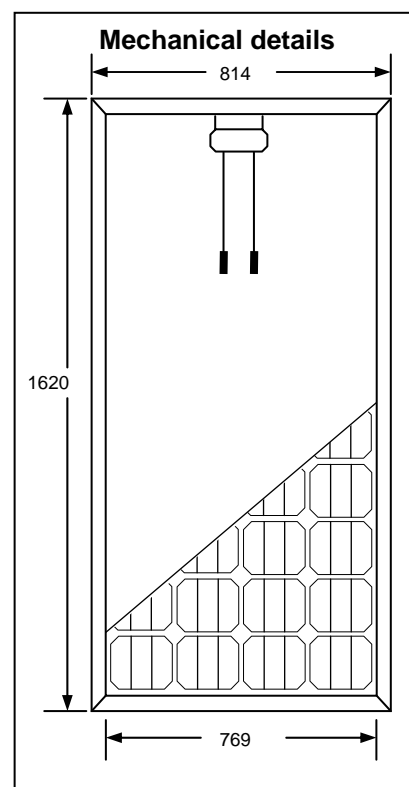
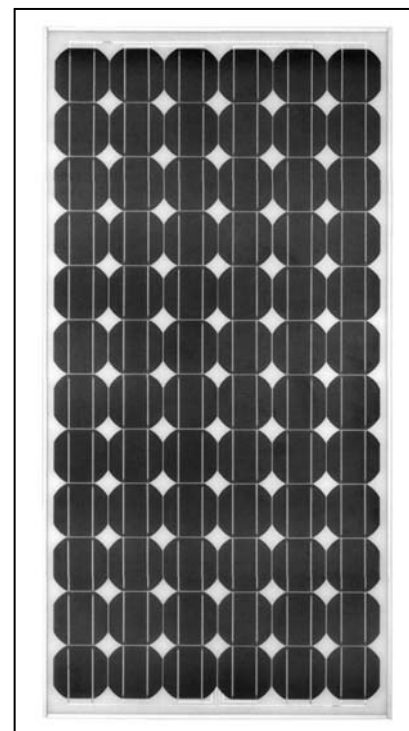
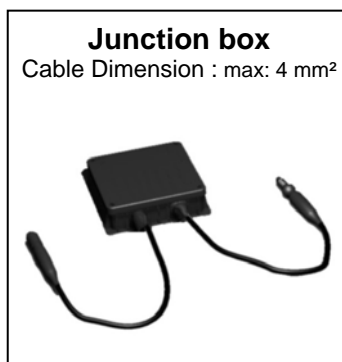
Manufacturing

According to IEC 61215 and ESTI Ispra
IEC 61730 pending

Performance warranty:
25 years power output warranty *)

WP = peak power under test conditions:
Air Mass AM = 1,5
Insolation E = 1000 W/m²
Cell temperature TC = 25°C

*) by SUNSET warranty conditions



Technical specifications subject to alterations with out prior notice; errors excepted



**330 Watt
on a travelmobile**



**440 Watt
on a caravan**



**side mounting
on a boat**



720 Watt „roof“ on a boat

Module - supporting frame

SGM 4 – Item No. 10060

SGM 8 – Item No. 10061

The module - supporting frames are light, stable and corrosion-resistant. They offer a sure module anchorage and keep wind speeds of up to 200 km/h and all other extreme weather conditions reliably suited. The racks are easy in mounting and are also easy to transport in impracticable terrain.

The module – supporting frames are available in two sizes:

- SGM 8: for the assembling of 1 - 4 modules AS 120
- SGM 4: for the assembling of 1 - 2 modules AS 120

These module – supporting frames are also suitable distinguished for big photovoltaic-systems. These shall be elevated on a flat roof.



Both modules consist of two parallel mounting profiles, two supporting legs and the bottom attachment. A detailed assembling instruction and all necessary mounting parts will be provided. At the choice of the materials was particularly respected the abrasion resistance and the compatibility with other materials of the system.

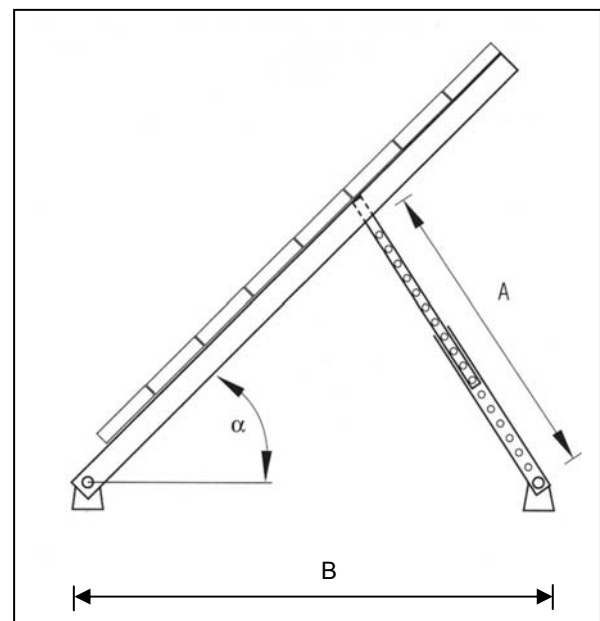
The extruded anodized stilts and porters of these robust supporting frame are made of hot-dip galvanized sheet steel. The downtilt of both standard racks can be brought into line with the geographical situation of the assembly place and is in the area between 15 ° and 65 ° adjustably in 5 ° steps.

The module-supporting frames are designated for the installation of the prepared foundation.

Dimensions of the packed racks:

| Rack Typ | SGM 4 | SGM 8 |
|---------------|-------|-------|
| Length in mm: | 1819 | 3146 |
| Width in mm: | 133 | 133 |
| in mm: | 114 | 114 |
| Weight in kg: | 15 | 21 |

| Winkel (α) | A (mm) | | B (mm) | |
|---------------|--------|-------|--------|-------|
| | SGM 4 | SGM 8 | SGM 4 | SGM 8 |
| 15° | 710 | 710 | 1727 | 2438 |
| 20° | 710 | 710 | 1676 | 2032 |
| 25° | 785 | 864 | 1676 | 2032 |
| 30° | 940 | 1015 | 1676 | 2032 |
| 35° | 1015 | 1245 | 1676 | 2032 |
| 40° | 1090 | 1370 | 1676 | 2032 |
| 45° | 1170 | 1525 | 1676 | 2032 |
| 50° | 1245 | 1755 | 1676 | 2032 |
| 55° | 1370 | 1905 | 1676 | 2032 |
| 60° | 1370 | 2030 | 1676 | 2032 |
| 65° | 1370 | 2030 | 1397 | 1727 |



Solar charge controller

Sol 5.6 X - Item No. 10113

Sol 5 - Item No.10121

Sol 8.8 X - Item No.10115

Description Sol 5.6X / Sol 8.8 X

This latest generation of charge regulators sets high standards in the solar industry. Specialized integrated circuits enable new control features.

The solar charge regulator is more than protection device for the solar battery. The over charge protection works as a pulse width modulated shunt regulator and ensures optimal battery charging.

The regulator is equipped with wear resistant MOSFET transistors, thus ensuring a long working life.

Completely new to this price class are the cyclic charging, boost charging and temperature compensation features. The regulator is also equipped with a multi-colour LEDs showing voltage levels



Safety features

- Over voltage protection with integrated varistor
- Reverse voltage protection for modules and battery
- open circuit and short circuit protection
- integrated standard fuse
- extra electronic short circuit protection
- Voltage indication with multi colour LED*
 - red 11.8 V
 - yellow to red-yellow 12.3 V
 - green 12.8 V

Charging features

- fast and sparing charging
- delayed deep discharge protection
- temperature compensation with integrated sensor
- automatic temperature indication
- cyclic charging
- boost charging
- Schottky diode
- MOSFET transistor
- LED indication of charge status

| Technical specifications | Sol 5.6 X | Sol 8.8 X |
|--------------------------------------|---------------------|---------------------|
| module short circuit current at 50°C | 5 A | 8 A |
| load current at 50°C | 6 A | 8 A |
| connection clamps | 2,5 mm ² | 2,5 mm ² |
| weight | 108 g | 112 g |
| protection class | IP 22 | IP 22 |
| dimensions | 85x98x34 | 85x98x34 |
| max. ambient temperature | -25°C bis 50°C | -25°C bis 50°C |
| system voltage | 12/24V | 12/24V |

* Double voltage for 24 volt systems!



Description Sol 5

This charge regulator is comparably adapted for lead and NiCd storage batteries. Because storage batteries generally shouldn't charge discretionary long without charging current limit or charge regulator, this regulator offers an optimal control of charging.

Applicative for systems of max. 80 watt generator power and 12-14 volt DC battery voltage.

Please see the product description for further technical details.

Technical details

Operating voltage: 12-14V DC
Power: max. 80W

Self energy demand: approx. 0,6 mA
Interrupting voltage: approx. 13,9V

Solar charge controller

SR 12 - Art.-Nr. 10152

SR 20 - Art.-Nr. 10151

SR 30 - Art.-Nr. 10150

SR 12 M - Art.-Nr. 10140

SR 20 M - Art.-Nr. 10141

SR 30 M - Art.-Nr. 10142

The new generation of charge controllers sets new standards in the solar industry. Specialized integrated circuits open up new control features.

A learning algorithm is included, which allows for a pretty accurate monitoring of battery charging status. The program even accommodates for the capacity and age of the battery. Charging status is the foundation for all control features.



A novel hybrid actuator enables higher efficiency than standard shunt and serial controllers and ensures optimal battery charging. The charger is also equipped with multi-colour LEDs for concise information of charging status.

Over load protection

- charging voltage according to charge status and temperature
- different charging modes depending upon cycle loads.
- sparing and equally extremely quick charging
- automatic voltage detection 12/24V

Deep discharge protection

- load disconnection due to charge status
- pre-warning of load disconnection

Gassing control

- automatically activated after 40% discharging or in 30 day cycles

Display

SR 12 / SR 20 / SR 30:

Information indicated with two multi-colour diodes and blink modes.

- charge status with colour change
- operation mode and failure indication

SR 12 M / SR 20 M / SR 30 M:

- Charging current, charging voltage, discharge voltage,
- charge status of battery
- operation mode and failure indication

Safety

- Protection against surge and over current, over voltage and max. temperature
- Short circuit and reverse polarity protection

| Technical specifications | SR 12 (SR 12 M) | SR 20 (SR 20 M) | SR 30 (SR 30 M) |
|-----------------------------|-------------------|--------------------|--------------------|
| rated voltage | 12V/24V | 12V/24V | 12V/24V |
| max. input current | 12 A | 20 A | 30 A |
| max. consumer current | 12 A | 20 A | 30 A |
| full charging voltage | 13.7 V | 13.7 V | 13.7 V |
| gassing activation | at 40% discharge | at 40% discharge | at 40% discharge |
| load re-connection | at 50 % capacity | at 50 % capacity | at 50 % capacity |
| connection clamps | 6 mm ² | 25 mm ² | 25 mm ² |
| display with | 2 LED | 2 LED | 2 LED |
| display of battery capacity | 10 colour tone | 10 colour tone | 10 colour tone |
| Weight | 300 g | 300 g | 300 g |
| Protection class | IP 22 | IP 22 | IP 22 |

SR 12 M / 20 M / 30 M display information on a 16 char LCD.

Solar charge controller

SLR 308 - Item No. 15505
SLR 316 - Item No. 15503
IRS 110 - Item No. 15506

SLR 1010 S - Item No. 15499
SLR 1010 D - Item No. 15498

SLR 2020 S - Item No. 15497
SLR 2020 D - Item No. 15496

SLR 308 and 316

These solar charge controllers help your solar system to a high overall efficiency and give the batteries a long life. They particularly are interesting for the use by special additional options in solaren lamp systems, e.g. streets or parking lights.

The integrated photo electric switch and the clock timer assure an individual adaptation of the operation period of the consumer. Through this, unnecessary operation times can be avoid – an efficient construction of the solar system is possible.

Safety features

- automatic over load protection
- automatic deep discharge protection

Charging features

- pulse charging
- high charge efficiency > 96%

Solar charge controller SLR 308/316

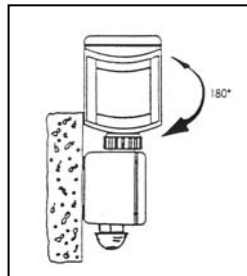


Unusual features

- integrated photo electric switch
- integrated clock timer, 6 blocks
- integrated timer, 1 to 15 minutes
- IP 65 casing, splash - proof
- optionally up to two motion detectors IRS 110 can be connected*

| Technical specifications | SLR 308 | | SLR 316 | | SLR 1010 | | SLR 2020 | |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Rated voltage | 12 Volt | 24 Volt | 12 Volt | 24 Volt | 12 Volt | 24 Volt | 12 Volt | 24 Volt |
| Max. input voltage | 27 Volt | 48 Volt | 27 Volt | 48 Volt | 27 Volt | 48 Volt | 27 Volt | 48 Volt |
| Max. load current | 8 Ampere | 8 Ampere | 12 Ampere | 12 Ampere | 10 Ampere | 10 Ampere | 20 Ampere | 20 Ampere |
| Disconnection | 11 Volt | 22 Volt | 11 Volt | 22 Volt | 11,1 Volt | 22 Volt | 11,1 Volt | 22 Volt |
| Reconnection | 12,5 Volt | 25 Volt | 12,5 Volt | 25 Volt | 12,6 Volt | 25 Volt | 12,6 Volt | 25 Volt |
| Consumption of auxil. | < 3 mA | < 3 mA | < 3 mA | < 3 mA | < 3 mA | < 3 mA | < 3 mA | < 3 mA |
| Temperatures | -15..+50C° | -15.. 50C° | -15..+50C° | -15..+50C° | -15..+50C° | -15..+50C° | -15..+50C° | -15..+50C° |
| Protection class | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 |
| Weight | 0,47 kg | 0,47 kg | 0,67 kg | 0,67 kg | 0,47 kg | 0,47 kg | 0,7 kg | 0,7 kg |
| Dimensions in mm | 160/110/60 | 160/110/60 | 175/110/60 | 175/110/60 | 163/112/57 | 163/112/57 | 175/115/57 | 175/115/57 |

| Technical specifications | Motion detector IRS 110* |
|--------------------------|--------------------------|
| Rated voltage | 12 Volt |
| Turn on time | 10 sec ..5 min |
| Angle detection | 110 Grad |
| Coverage | ca. 13 Meter |
| Consumption of auxil. | 2 mA |
| Temperatures | -15 .. +50 C° |
| Protection class | IP 54 |
| Weight | 0,28 kg |
| Dimensions in mm | 66/154/87 |



Solar charge controller SLR 1010/2020



SLR 1010 and 2020

The charge controller SLR 1010 and SLR 2020 are equipped with an especially for the solar charge technology made integrated circuit (AtonIC®). Through the AtonIC® a solar charge controller becomes more than only a protective device for the accumulator. A self-learning algorithm for the state of charge of the battery is to accent. The program adapts to the capacity and the age of the battery at this. The state of charge (State of Charge = SOC) is basis of all rule and heading functions. A novel hybrid actuator has extensive better efficiency than shunt and standard controller so far. These charge controllers are particularly suitable by their high protection class for the outdoor use, e.g. for boats.

* can only optional refit in connection with SLR 308/316!

Amperehourcounter

DCC 4000 - Item No. 9000

Item No. 9030 - sensor resistor up to 60 A

Item No. 9031 - sensor resistor up to 100 A

Item No. 9032 - sensor resistor up to 200 A

Item No. 9033 - sensor resistor up to 600 A

DCC 4000 E - Item No. 9010

Item No. 9030 - sensor resistor up to 60 A

Item No. 9031 - sensor resistor up to 100 A



Whether self-sufficient house systems, campmobile, or boat, always the question surrenders:

How much efficiency is still in the battery?

The answer gives the **DCC 4000**
or the **DCC 4000 E**

Technical specifications:

- Supply voltage: 8-30V DC
- Charging rate: 4 mA
- Charging rate with display lighting: 25 mA
- Measuring system: current averaging, 4 measurings / second
- Dimensions outside covering: 122 x 43 mm
- Installation dimension: 105 x 40 x 80 mm

The following value can be programmed at the DCC 4000: sensor resistor, cahрге coefficient, warning, **counter-overflow lock**, metering capacity dilation, counter setting.

The DCC is also available in a simpler, cheaper version (DCC 4000 E), which is not programmable though!

Voltage- and Amperemeter

DCV 2000/12V - Item No. 9020.12

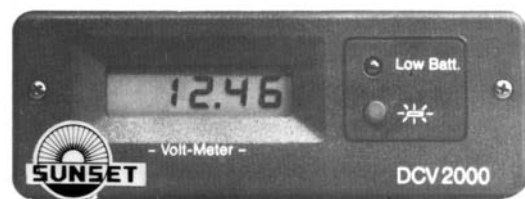
DCV 2000/24 V - Item No. 9020.24

DCA 2000 (12 und 24 Volt) - Item No. 9021

The amperemeter **DCA 2000** shows the respective current conduction in the solar system.

The voltmeter **DCV 2000** is equipped with an additional undervoltage alarm.

Both apparatus have a semiconductor technology and are easy in mounting.



Technical specifications DCV 2000:

Effective range: 0,01 - 19,99 Volt +/- 1%
(24 Volt version accordant)

Warning: if undershoot of 10,5 Volt

Technical specifications DCA 2000:

Effective range: 0,1 - 200 A +/- 1 %
Sensor resistor: 1 mOhm - 100 A Shung
200 A Shunt available with price premium
Fall of voltage: 0,1 V of 100 A

General technical specifications:

- Supply voltage : 12V bzw. 24V
- Charging rate: 4 mA/35 mA with display lighting
- Display lighting: two high-performance diodes with light contributor
- Adaptor: 6,3 mm connector guide on the backside
- Working temperature: 0 - 60 °C
- Dimensions HxBxT: 40 x 105 x 80 mm assembly dimension
- Protection class: IP 65

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Sinus inverter WE 400 / 600 / 800

WE 400/12V - Item No. 13070

WE 400/24V - Item No. 13071

WE 600/12V - Item No. 13072

WE 600/24V - Item No. 13073

WE 800/12V - Item No. 13086

WE 800/24V - Item No. 13087

These new inverter-family
offers the perfect main voltage from the battery



| Type | WE 400/12V | WE 400/24V | WE 600/12V | WE 600/24V | WE 800/12V | WE 800/24V |
|----------------------------|--|-------------|-------------|-------------|-------------|-------------|
| Continuous output | 400W | 400W | 600W | 600W | 800W | 800W |
| Temperature range | -10...+50°C | -10...+50°C | -10...+50°C | -10...+50°C | -10...+50°C | -10...+50°C |
| Outstanding achievement 7s | 800W | 800W | 1200W | 1200W | 1500W | 1500W |
| Stand-by-use | <0,5W | <0,5W | <0,5W | <0,5W | <0,5W | <0,5W |
| Demand identification | >2,5W | >2,5W | >2,5W | >2,5W | <2,5W | <2,5W |
| Efficiency | 92 % | 93 % | 92 % | 93% | 92% | 93% |
| Signalform | Sinus | Sinus | Sinus | Sinus | Sinus | Sinus |
| Output voltage | 230V/50Hz | 230V/50Hz | 230V/50Hz | 230V/50Hz | 230V/50Hz | 230V/50Hz |
| Input voltage | 10..15 VDC | 20..30VDC | 10..15VDC | 20..30 VDC | 10..15 VDC | 20..30 VDC |
| Sealant | IP23 | IP23 | IP23 | IP23 | IP23 | IP23 |
| Remote control | Option | Option | Option | Option | Option | Option |
| Dimension (mm) | 310x165x62 | 310x165x62 | 370x195x68 | 370x195x68 | 370x195x68 | 370x195x68 |
| Weight | 2,6 kg | 2,6 kg | 3,5 kg | 3,5 kg | 3,7 kg | 3,7 kg |
| Control | Connenction polarity, under- and overvoltage, outstanding achievement shortcut AC, overload of input and output, overheating | | | | | |

These new inverters feature through:

- small, very light and compact apparatus
- possible installation in side covering of vehicles
- Hi-Tech-transformation for outstanding achievement
- consumer with high starting output can be operated
- distinguished sinussignal-quality
- Remote control as option for all apparatus

Sinus inverter WE Serie

WE 1,5/12V - Item No. 13068
 WE 13/12V - Item No. 13082
 WE 20/12V - Item No. 13090
 WE 30/24V - Item No. 13078

WE 2,5/24V - Item No. 13067
 WE 13/24V - Item No. 13083
 WE 20/24V - Item No. 13091
 WE 35/48V - Item No. 13097

The proven inverters



| Technical specifications | WE 1,5 / 2,5 | | WE 13 | WE 20 | WE 30/24 | WE 35/48 |
|---------------------------------------|---|--------------|---|-------------|-------------|--------------|
| Rated voltage (bei TA=20°C) | 150VA | 250VA | 1300VA | 2000VA | 3000VA | 3500VA |
| Max. efficiency ca. | 92% | | 93% | 94% | 95% | 93% |
| Input voltage 12 V | 10,5 – 16 V DC | | | | no | no |
| Input voltage 24 V | no | 21 – 32 V DC | | | | no |
| Input voltage 48 V | no | | no | no | no | 42 – 65 V DC |
| Output voltage nominal | (real sinus form 225V) | | | | | |
| Output frequency | 50 Hz +/- 0,5 % | | | | | |
| Undervoltage cutout | yes | | yes | yes | yes | adjustable |
| Consumption of auxiliaries Off/St. by | 20 mA | | 0W / <0,5 W | 0W / <1W | 0W / <0,5W | |
| Demand identification on Standby | nein | | 4 – 40W (outside continuous adjustable) | | | |
| Consumption of auxiliaries ON | 2W | 2,5W | 10W | 16W | 22W | 14W |
| Overload ability | max. 250% | | max. 300% | | | |
| Temperature range | 0 – 50°C (humidity <95%, not condensed) | | | | | |
| | LED-Display | | | | | |
| Automat. Standby-switch | no | | yes | yes | yes | yes |
| circuit breaker DC-side | no | | ja | yes | yes | yes |
| | no | | no | yes | yes | yes |
| Dimensions (mm) | 190/110/75 | | 260/181/375 | 320/211/456 | 320/211/456 | 320/211/456 |
| Box 19“ Version | no | | 3HE(=177mm)/19“ (486,6mm) / 250mm | | | no |
| Box protection class | IP20 | | | | | |
| Weight | 1,8/2,5 kg | | 16 kg | 19,5 kg | 31 kg | 30 kg |

The advantages of the proven WE inverters:

- Real Sinus tension, therefore no power confinement with inductive consumers
- High performance reserves for the inrush currents from inductive consumers (up to 300 % overload)
- High efficiency for the complete range of performance
- Standby-function with fast identification of load (besides WE 1,5 / 2,5)
- load-dependent undervoltage cutout for long life of the battery
- low interrupt radiance, exits are galvanic separately
- short-circuit proof

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SUNSET Solar Batteries

SUNSET Solar Battery 105 Ah - Item No. 10052
SUNSET Solar Battery 255 Ah - Item No. 10054
Battery lug clamps - Item No. 10062

Independent power supply at any time and at any place makes solar power systems so popular, especially for holiday and recreational appliances.

Solar modules produce electricity directly from the sun light. This energy has to be stored to be able to use it at night or during periods of low sunshine. Our batteries are a tried & tested storage solution.

Continual charge and discharge cycles place great demands on solar batteries; standard car batteries can not fulfil these demands in the slightest, and have a fraction of the life expectancy of our solar batteries.

SUNSET solar batteries have been developed to fulfil these exceptional demands:

- long working life
- high cycle resistance
- minimal maintenance
- low auto-discharge
- high current capacity
- operational safety
- reliability & efficiency



SUNSET Solar Batteries are used for:

- weekend and holiday homes
- Boats and yachts
- caravans and motor homes
- camping
- log cabins
- Solar Home Systems

SUNSET Solar Batteries are used to power:

- lighting
- refrigerators
- Radios and TVs
- water pumps
- CB radios, radio repeaters
- navigation systems
- alarm systems etc.

accessories
battery lug clamps



Features:

- **Fortified plates** ensuring high charge cycle resistance
- **Special compound plates** and a balanced ratio between acid and plates ensure the charge cycle resistance and high current capacity and a high deep discharge resistance.
- **Selenium-alloy sponge lead plate** reduces auto-discharge and water consumption
- **Pocket separators with glass mat supports** increasing charge cycle resistance
- Integrated central ventilation
- Dry pre-charging ensures an almost unlimited shelf life. Battery is activated when filled with acid

Technical specifications

| | Solar battery 105 Ah | Solar battery 255 Ah |
|-------------------------------------|-----------------------------|-----------------------------|
| Nominal voltage | 12 Volt | 12 Volt |
| Nominal capacity at 100 h discharge | 105 Ah (c100) | 255 Ah (c100) |
| Nominal capacity at 20 h discharge | 95 Ah (c20) | |
| Deep discharge voltage | 10.5 Volt | 10.5 Volt |
| Operational capacity | 80% of nominal capacity | 80% of nominal capacity |
| Nominal electrolyte density | 1,28 +/- 0,01 kg/l at 27 °C | 1,28 +/- 0,01 kg/l at 27 °C |
| Recommended operation temperature | +10°C to +30°C | +10°C to +30°C |
| Dimensions (L x B x T) | 353 x 175 x 190 mm | 515 x 290 x 250 mm |
| Weight (empty) | 25 kg | 43 kg |
| Acid volume | 5,3 Litre | 13,8 Litre |



Please observe: Due to safety considerations and to ensure an extreme long shelf that **SUNSET Solar batteries** are always delivered pre charged and dry (without acid). **Batteries have to be filled with the specified amount of sulphuric acid before operation!**

Battery memory for special applications:

We offer a variety of different professional battery memories of various manufacturers for industrial applications and large photovoltaic stand-alone systems.

Our offer extends from 12 volts of gels batteries over OpzV 12 volts of blocks of batteries to professional OpzV 2 volts of single cells into differentest capacities here.

We don't like to come in more nearly on these types in this place because of the variety of the types and the various use areas. If you look for the right battery memory for your applications wonder you us, we if you like to advise and finds the fitting in every application area battery memory!

Compressor – cooling unit 12/24 Volt

To the rounding of our assortment and special for the campmobile friends, we also have different energy-saving compressor- and freezer units from a european manufacturer. For adoption a new compressor of the company Danfoss is used, which is worldwide known for the long-life cycle and high credibleness.

Many advantages unite to an ace product:

- extreme economical energy consumption, suitable very well for the use in solar systems
- silent compressors, max. 25 dB A noise development
- totally function ability, also with declination up to 30° for the use in campmobiles
- good environmental compatibility, coolant R 134a and insulating material are CFC free
- automatic voltage adjustment to 12 – 24 Volt operating voltage
- extreme strong cooling capacity also with high ambient air temperature
- high credibleness and long-life cycles of the apparatuses
- many models are available with external chiller and/or cold memory
- elegant design of the apparatuses

Cooler C 26 - Item No. 12170

On short travels or weekend trips these cooler gives always cold drinks and food!

| Technical specifications: | Cooler C 26 |
|---------------------------|-----------------------|
| Capacity: | 26 liters |
| Dimensions L/B/T: | 51 x 34,5 x 38,5 cm |
| Weight: | 16 kg |
| Operating voltage: | 12 und 24 Volt |
| Input nominal: | 30,5 Watt |
| Average energy demand*: | 8 W/h |
| Temperatures: | -5°C bis +10°C |
| Aggregate: | Danfoss BD 35, intern |



*) This detail is dependent on the service conditions like cooling capacity and ambient temperature!

Freezer STKT 245 - Item No. 12110

This freezer is by the extremely low wattage of only approx. 44 Ah middle daily consumption (at 12V, ambient air temperature +21°C, cool temperature - 20°C) particularly well for the use in solar systems suitable. It is occupied by a strong insulation of 100 mm and has a DC-chiller for the access to a 12 or 24 Volt battery.

| Technical specifications: | Freezer STKT 245 |
|---------------------------|------------------|
| Capacity: | 245 liters |
| Dimensions L/B/T: | 113 x 90 x 75 cm |
| Weight: | 54 kg |
| Operating voltage: | 12 und 24 Volt |
| Input nominal: | 52 Watt |
| Average energy demand *: | 44 Ah |
| Temperatures: | -12°C bis -30°C |
| Aggregate intern/extern: | Intern |
| Aggregate: | Danfoss BD 35 |



*) This detail is dependent on the service conditions like cooling capacity and ambient temperature!

Compressor – Refrigerator 12/24 Volt

Refrigerator C 45 LA - Item No. 12150
 Refrigerator C 75 LA - Item No. 12152
 Refrigerator C 85 IA - Item No. 12156

Refrigerator C 115 IA - Item No. 12158
 Refrigerator C 130 LA - Item No. 12154

The refrigerator is equipped with an external compressor, which can be installed up to a distance of two meters from the insulated housing. Energy consumption can be reduced due to optimal heat dissipation. These appliances are especially suited for stand-alone solar power systems,

The refrigerator can also be equipped with latent heat storage, which allows for power supply to be discontinued for up to 12 hours e.g. when installed in a caravan.



| Technical specification: | C 45 | C 75 | C 85 | C 115 | C 130 |
|--------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Volume: | 40 litres | 75 litres | 90 litres | 118 litres | 133 litres |
| Dimensions L/B/T: | 39x40x54 | 47x46x61,5 | 48,5x47x78,5 | 52,5x55x76,5 | 52,2x55x76,5 |
| Weight: | 16,1 kg | 21,2 kg | 16,1 kg | 21,2 kg | 27,4 kg |
| Voltage: | 12 und 24 Volt | 12 und 24 Volt | 12 und 24 Volt | 12 und 24 Volt | 12 und 24 Volt |
| nominal power: | 30,5 Watt | 38,5 Watt | 38,5 Watt | 38,5 Watt | 38,5 Watt |
| Average energy consumption*: | 19,5 W/h | 14 W/h | 15 W/h | 19 W/h | 19,5 W/h |
| Working temperature: | -5°C bis +10°C | -5°C bis +10°C | -5°C bis +10°C | -5°C bis +10°C | -5°C bis +10°C |
| Latent heat storage** | L without / LA with | L without / LA with | I without / IA with | I without / IA with | L without / LA with |
| Compressor internal / external | external | external | internal | internal | external |
| Compressor: | Danfoss BD 35 | Danfoss BD 35 | Danfoss BD 35 | Danfoss BD 35 | Danfoss BD 35 |

* Depending upon use, and ambient temperature!

**Refrigerators are labelled with a LA when equipped with latent heat storage, and with a L when not.

If you like to build your cooling unit, we can deliver the compressors and evaporation plates also separately, if you send us an enquiry.

Refrigerating set ND 20/35 OR

- Operating voltage: 9,5 – 17 or 21,1 up to 31 Volt
- evaporating temperature: -30°C bis 0°C
- max. temperature range: 55°C
- Weight: 4,5 kg
- with fast couplings



We offer a large assortment of evaporation plates to these refrigerating sets!

Energy saving Lamps

Pendent lamp - Item No. 10070

Outdoor lamp - Item No. 10081

We stock energy saving 12 Volt lamps to round off our range of products. They are particularly suitable to complement your solar power system with their low energy consumption.



Pendent lamp set 12 Volt / 9 Watt

You can refurbish nearly any standard lamp with the pendent lamp set. The lighting power of a 60 Watt incandescent is achieved with the energy saving 12V / 9W bulbs.

The lamp is equipped with a five meter connecting cable and a switch. The lamps are suitable for zero load operation and are short circuit proof, reverse polarity proof, and noise suppressed.

Operating voltage: 10,5 – 14,5 Volt

Current demand: approx. 1 A

Lighting power: equivalent to 60 W incandescent bulb

Outdoor lamp 12 Volt / 9 Watt

For indoor and outdoor installation consisting of a shockproof casing (IP 65; dust and water proof), and equipped with a 12 volt / 9 W energy saving bulb, equivalent to a 60 Watt bulb.

The lamp is equipped with a five meter connecting cable and a switch. The lamps are suitable for zero load operation and are short circuit proof, reverse polarity proof, and noise suppressed.

Operating voltage: 10,5 – 14,5 Volt

Current demand: approx. 1 A

Lighting power: equivalent to 60 W incandescent bulb

Dimensions: 295 x 100 x 78 mm



The employed energy saving florescent bulbs can be separated from the ballast. These spare parts can be supplied separately. Replacement costs are thus reduced to a minimum.

Solar Street Light

Item. No. 10100

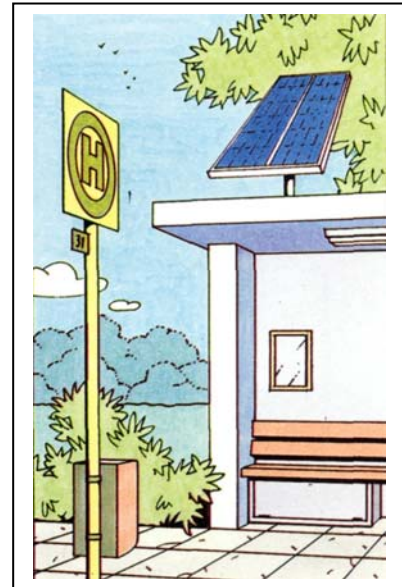
The independent, economic, and reliable lighting solution!

The Solar Street Light is a tried and tested lighting solution. A variety of sizes of and number of solar modules can be mounted on the light pole; this appliance a flexible solution, suitable for a wide range of climates.

The light pole is equipped with an adjustable mounting frame allowing the solar module to be aligned for maximal solar yield. The produced electricity is conducted via cables and a solar battery charger to the solar batteries placed at the base of the pole.

The system can be customer designed to ensure that the lamp has a reliable power supply even during periods of bad weather.

The complete ready-to-install system consists of: a energy saving lamp, solar modules, solar charge regulator, light pole, and solar batteries.



Energy saving lamps

This system utilizes energy saving fluorescent lamps or innovative light emitting diodes. Long illumination cycles, also during periods bad weather, are thus ensured.

Flexibility

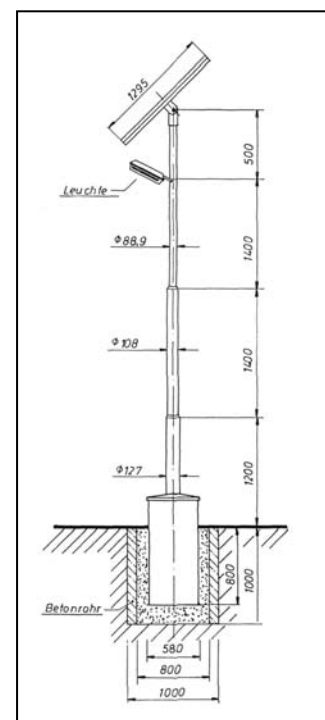
A modular design permits divers applications. Wall brackets can for example replace the light pole, allowing the lamp and modules to be installed on an existing wall.

Shedding light on all over

The solar street light can be utilized for diverse applications: Lighting of remote streets, bike paths, foot paths, play grounds, as well as lighting from bus stops etc.

Fast installation

Elaborate cable laying is not necessary, installation is extremely flexible.



Solar Street Light is customer designed, i.e. according to climate, application, required illumination cycle, summer or winter application, illuminance.



240 Watt for
a „beergarden“

PV-System
for a lake pump



150 Watt for
a weekend house

Solarsystems in Turkey



Public spring



Irrigation for
kitchen garden



Solar field irrigation

Solar deep well pump

STP 70 - Item No. 901070

The solar deep well pump **STP 70** is extremely suitable to work on solar generators. Due to the low power demand the pump has a large flow rates even with a pressure head of 60 meters.

We also offer the STP 70 in a set as **STS 70** with a suitable solar generator.

Technical Data STP 70:

| | |
|---------------------------|------------|
| Nominal voltage: | 24 Volt DC |
| Max. current consumption: | 4 Ampere |
| Max. pressure head: | 70 Meter |
| Hose connection: | ½ " |
| Diameter: | 95 mm |
| Length: | 305 mm |
| Weight: | 2.7 kg |



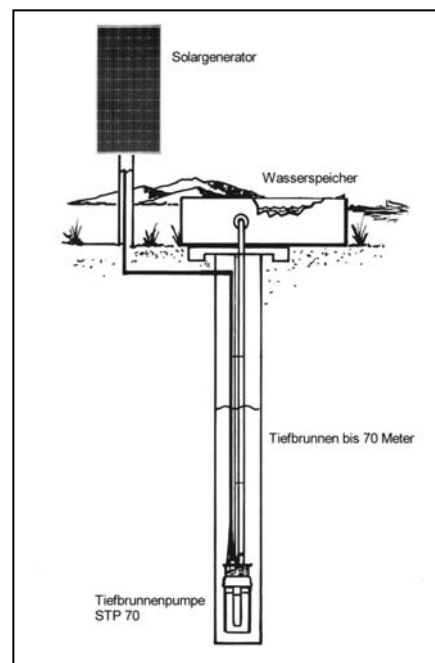
Solar deep well pump set STS 70

Item No. 901170

Applications:

Autonomous pump systems for drinking water supply, irrigation, and to water cattle, as well as other applications. Economic, reliable, and continuous operation make the pump to a professional solution. The chosen solar generator, Siemens SM 110F/24 Volt, matched to fit with the pump in the STS 70 set. An optimal flow rate is thus ensured when run with good insolation levels.

| performance data STP 70 * | | |
|---------------------------|-------------|---------------------|
| pressure head | Flow rate | Current consumption |
| 6 m | 440 Litre/h | 1.5 Ampere |
| 12 m | 430 Litre/h | 1.7 Ampere |
| 18 m | 410 Litre/h | 2.1 Ampere |
| 25 m | 400 Litre/h | 2.4 Ampere |
| 30 m | 390 Litre/h | 2.6 Ampere |
| 36 m | 380 Litre/h | 2.8 Ampere |
| 43 m | 373 Litre/h | 3.1 Ampere |
| 49 m | 370 Litre/h | 3.3 Ampere |
| 55 m | 350 Litre/h | 3.6 Ampere |
| 61 m | 345 Litre/h | 3.8 Ampere |
| 70 m | 310 Litre/h | 4.1 Ampere |



* The stated performance data is only achieved under full sunshine and maximal operational voltage.

Deep well pump-systems



**Watering place
in Africa**

Wherever there is no power supply, e.g. in rural areas and developing countries, solar deep well pump systems ensure of a reliable water supply. Since these systems work literally maintenance-free and self-operational, they can be used for installations far away from settlements.

You can use solar deep well pump systems for the following applications:

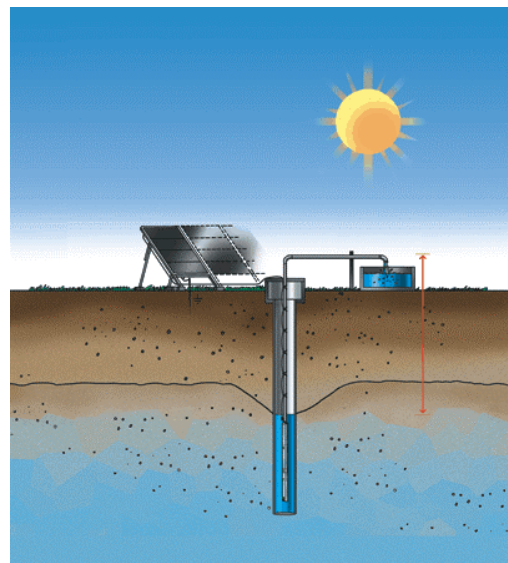
- Irrigation systems
- Pressure increase
- Irrigation
- Ground water lowering
- Water supply for households and general water supply
- Fountains
- Animal watering troughs etc.

Range of performance:

Output : up to 220 m³ per day, up to 60 l/sec.
Pressure head: up to 200 m

How does a deep well pump system work?

The solar modules convert the solar radiation into electrical energy. The generated direct current is converted to alternating current by the inverter which then powers the pump. Since the current generated in this system is not stored in batteries, the pumping power depends on the solar radiation. The pump only operates during daylight. This has the advantage that the water can collect in the bore again over night. Sludge accumulation or silting up is reduced dramatically.



The deep well pump systems are available in all sizes within the given capacity. Since the demands can vary a lot, we cannot list any complete sets here. We design them according to the customer's request and necessary requirements for each application.

Solar fountain pump

available single or in different solar fountain sets

Use the sun's energy in your garden with our solar fountain sets, which are the ideal solution for especially suitable applications such as:

- Spring stones, waterfalls, streams
- Fountains
- Oxygen enrichment of ponds

The solar pump is directly driven by the solar module. Flow rate and pressure head are proportional to insulation levels.

Technical specifications of the pump SP 700:

| | |
|----------------|-----------------|
| Rated voltage: | 12 - 24 Volt DC |
| Rated power: | 8 Watt |
| Flow rate: | max. 12 L/min. |
| Pressure head: | max. 1,80 m |



Scope of supply SPS 700

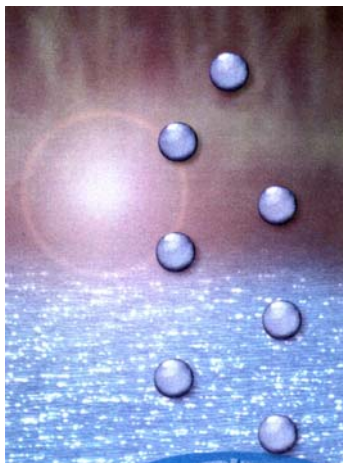
- High power pump SP 700
- Solar module SM 10/36
- Filter
- Suction cups for easy mounting of pump
- Fountain nozzle
- Connecting cable 5 meters
- Connection plug to connect to power source
- Instruction manual

Available in following specifications:

| | |
|---|------------------------|
| Solar fountain SP 700 | Item No. 900005 |
| Solar fountain set SPS 700 (fig.) | Item No. 900105 |
| Solar fountain set SPS 700/10 (Pump and two SM 10/36) | Item No. 900106 |
| Solar fountain set SPS 700/36 (Pump and SM 30/36) | Item No. 900107 |

Solar Spout

Item-Nr. 90003



Beautify your garden pond with our solar spout. The solar spout works completely ecologically and maintenance free, with no 230 V connection or batteries.

Depending upon the intensity of the sun's rays the small „power plant“ supplies the pump with 12 V DC power.

This environmentally benign and cost effective solar spout livens up your garden pond. Depending upon the intensity of the sun's rays the spout shoots up to two meters into the air creating a fascinating spectacle of swirling drops. The interval between pouts is dependent upon light intensity.

The solar spout „Duett“ increases the spectacle because two pumps work alternately.

No tools are needed to install the solar spout. All necessary parts are included in the package. The pump just has to be placed in the pond and floats on the surface.



Align the supplied solar module towards the sun and connect the cables together – and the fascinating spectacle begins. The pump and the single crystal solar module included in the set are completely maintenance free.

Use the advantages of our environmentally friendly solar fountain sets!



Solar Spout „Duett“

Item-Nr. 90004

SOLAR garden lights

Illumination cycle up to 20 hours - 2 years full guarantee

Advantages, which are clear!

Environment-friendliness

The powerful crystalline solar cells change the sunlight into electricity at day and save these in a battery with high capacity. At night all lights are turned on by a sensor automatically.

Weatherproof

Because all SUNSET-garden lights are weatherproofed, intruding dampness or water have no negative consequences.

High durability

Special weatherproof materials guarantee a function of many years. The used rechargeable battery has a 2 - 3 years life expectancy and is simply to replace.

The in all solar lamps (besides Sensor Light) used bright-efficient LED's guarantee a durability of up to 100.000 hours.

Easy installation

The garden lights are simply to install, because no wiring is required.



What you should know about solar garden lights!

Illumination cycle

For the nightly use, the solar garden lights need direct sunlight by day. Depending on season, location and cloudiness rate, the operating rate is decisively influenced. And so the shining time for the summer months is reduced up to 60 % during the winter months or by cloudy, rainy weather.

If you want your solar garden light to render maximum performance, independently of weather or season (in the summer month up to 20 hours) they should stand in the direct sunlight, without clouding by trees, houses or the like.

Brilliancy

You can in principle start out from this: The bigger the solar cell, the more energy can be saved during the day and the higher is the brilliancy.

Condensation

Water or humidity in the inner life of the lamps impairs not the function, because the lamps material is weatherproof and the solar cell is embedded humidity sheltered.



Parklight for 3 lamps (140 cm)
Item No. 18765

Parklight for 5 lamps (200 cm)
Item No. 18766

With this accessories you can create most of the following Solar Garden Lights (except of Stainless Steel Lights, Maxi Pole Light and discontinued models) into the decorative „Park Light“.

Scope of delivery:

Extension poles, mounting arms and deck mount.

The lamps you have to order separately.

Of course we deliver all accessories or spare parts, please contact us!

SUNSET Energietechnik GmbH • Industriestraße 8 – 22 • D – 91325 Adelsdorf

Tel: 09195/9494-0 • Fax: 09195/9494-290 • E-Mail: support@sunset-solar.com

Solar Garden Light „Titan“ **Stainless Steel**

Item No. 18811 colour: white

Solar Garden Light with classic stainless steel design and one bright energy-efficient white LED. Special internal mirror to increase the shining power. Two high capacity NiMH-batteries provide for long illumination cycles.

Illumination cycle: up to 8 hours, Total height: 54 cm, Diameter: ca. 15 cm



Solar Garden Light „Elegance“ **Stainless Steel**

Art.-Nr. 18814 colour: white

This Solar Garden Light with modern stainless steel design is an eye catcher for every garden. Four bright energy-efficient white LED's and a special internal mirror to increase the shining power.

Two high capacity NiMH-batteries provide for long illumination cycles.

Illumination cycle: up to 8 hours, Total height: 100 cm, Diameter: 22 cm

Solar garden lights *with motion detector*

Sensor Light Item No. 18761

The included motion detector gives you a save feeling. For mounting at a house wall among a roof lead been suitable.

A four meter long connection cable makes a separate optimal place of the solar modules possible.

High shining power by 20W-halogenous shining.

For entrances, garages, tool sheds and carports.



Crystal Sensor Light Item No. 18798 colour: white

Solar light with motion detector in **LED-Technology**



Headstart through newest technology – Two separated circuits:

1. Switch: Motion detector an / lamp out / garden light with motion detector function
2. Switch: Light high / out / low

Switch versions

Motion detector on: no steady burning light, only sensor connection if there is movement

Garden lamp on, light high or low: Steady burning light on „high“ or „low“, if there is movement brighter sensor connection

This light is also available without motion detector, as **Crystal Light**, Art.-Nr. 18748, with 3 LED's. Colour: white

Maxi Pole Light

Art.-Nr. 18779 colour: white or blue, green or amber

Solar garden light with 10 LED's, emitting bright white light and having a long life cycle. Large illuminating surface with all-round illumination.

High/Low switch. The supplied deck mount provides for good stability.

Height: approx. 90 cm



Solar Pole Light

colour: white
Item No. 18774 / Item No. 18775 set of 2



Attractive solar lamp in modern design.
Extension pole and bottom plate are available (optionally).
High/Low-Switch and 2 energy-efficient LED's.
Total high about 63 cm

Marker Light

colour: amber
Item No. 18770



This light will bring a soft golden glow to your garden.
High/Low-Switch
Total high about 30 cm
Extension pole and wall fixing are available (optionally)

Globe Light

colour: white Item No. 18799

Mini Globe Light

colour: amber Item No. 18801

Two bright energy-saving LED's with Energy Saving Plus Modulation.
Characteristic: one LED shines up and one down.

Total height incl. poles (approx.): Globe Light 58 cm / Mini Globe Light 38 cm



Night Light

Item No. 18784



Solar powered garden light in traditional styling.
Incl. two energy-efficient LED's
High/Low-Switch for summer- and longer lightening in winter time.
Total high incl. poles: about 60 cm

Garden Light

colour: white

Art.-Nr. 18780 / Art.-Nr. 18781 Set of 2



An economical and efficient way to decoratively light walkways, garden- and driveways.
Set of two pieces available.
Total high incl. two poles: about 60 cm

Way Light

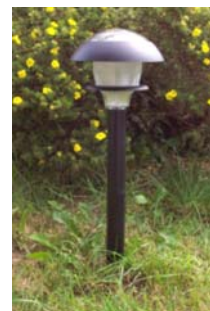
Item No. 18740 colour: white

Gold Light

Item No. 18789 colour: amber
Item No. 18790 Set of 3

Fluorescent walkway light that accents driveways and gardens.
Available with white (Way Light) or yellow (Gold Light) LED's.
High/Low-Switch for summer- and longer lightening in winter time.
Total High incl. two poles: about 60 cm

Available as **Party Light Set of 3** in colours **blue**, **amber** und **green**: Art.-Nr. 18788



Discontinued model

Candle Light

Item No. 18792 Colour: white

Small camping- or table light.

You can use it also as garden light with one pole.

High incl. deck mount: about 16 cm



Pathmarker, Set of 2

Art.-Nr. 18754

With a soft red glow, the Pathmarker illuminates driveways, walkways and steps.

Coloured red LED-light.



At night all lights are turned on by a sensor!

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Windgenerators



Wind generator WG 503

Item No. 15520

Whatever the application you'll find using the WG 913 is convenient, reliable and cost effective. It can be used alone or in conjunction with solar panels and/or a diesel generating set to create your own stand-alone power system free of costly grid installation and on-going costs.

Features:

- certainty turbine of strong nylon plastic injury protection through circular plastic ring
- spare vibration generator
- battery charge already at 2,2 m/s
- short rotary radiance around the tower: 255 mm
- armature diameter: 510 mm
- saltwater - proof
- stainless steel anchorage for 1 ¼" (= 31,7 mm)
- tower (not included in delivery)
- maintenance - free
- high coefficient by aerodynamic design
- Output: max. 60 watts, with 10m/s: 25 watts
- Weight: 3,5 kg
- charge controller for WG 503 available, for these charge controller is a concurrently operation of a PV module up to max. 30 Wp possible.

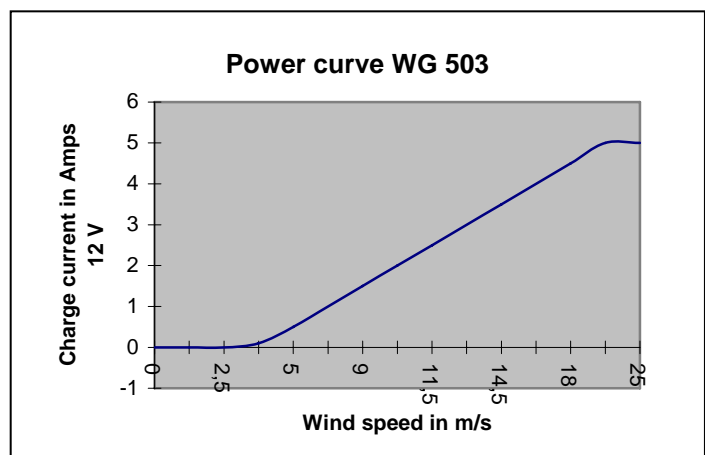


Your advantages:

- greatly extended battery life
- batteries are always charged and ready for
 - motor starting
 - lighting
 - pumps
 - refrigerators
 - navigation systems
 - inverters
 - TV etc.

The WG 503 can be run on a 12 Volt shunt regulator:

Regulator HRS 503 / 12V Item no. 15530



Wind generator WG 913 Marine

12 V - Item No. 15516

24 V - Item No. 15517

Whatever the application you'll find using the WG 913 is convenient, reliable and cost effective. It can be used alone or in conjunction with solar panels and/or a diesel generating set to create your own stand-alone power system free of costly grid installation and on-going costs.

Features:

- Composite aerofoil blades of durable glass fibre;
- Blade diameter 910mm;
- Computer designed blades :
- High efficiency and low electricity production costs
- Battery charging from 2.2 m/s Wind (8 km/h)
- Low noise levels
- Maritime proof materials,
- Automatic thermostat protection in prolonged gales;
- Low vibration, fibre glass 3-phase generator
- High inertia generator flywheel effect generates smooth, continuous power between gusts
- Designed to mount on 41mm internal diameter tube
- No electro-magnetic indifference with electronic equipment
- CE certified to EU norms
- Includes automatic operation controller
- Maintenance free;
- Power: max. 220 Watt
rated at 10 m/s: 72 Watt
- Net weight: 10,5 kg



Your advantages:

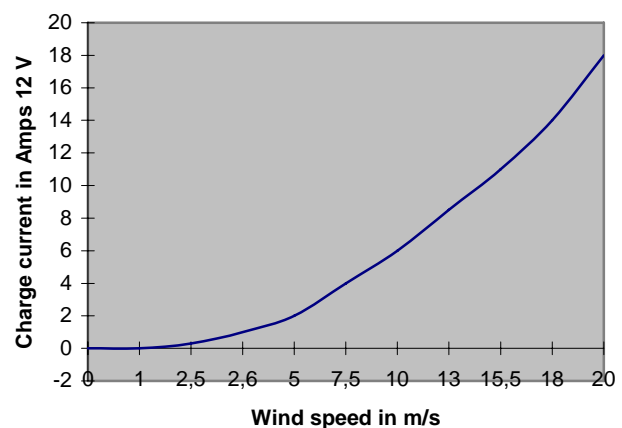
- greatly extended battery life
- batteries are always charged and ready for
 - motor starting
 - lighting
 - pumps
 - refrigerators
 - navigation systems
 - inverters
 - TV etc.

The WG 913 can be run on a 12 or a 24 Volt shunt regulator:

Regulator SR 200/12V Item no. 15502

Regulator SR 200/24 V Item no. 15504

Power curve WG 913



Wind generator 1803 Furlmatic

12 V - Item No. 15518 36 V and 48 V are available on enquiry
24 V - Item No. 15519

Whatever the application you'll find using the Wind generator 1803 Furlmatic is convenient, reliable and cost effective. It can be used alone or in conjunction with solar panels and/or a diesel generating set to create your own stand-alone power system free of costly grid installation and on-going costs.

Features:

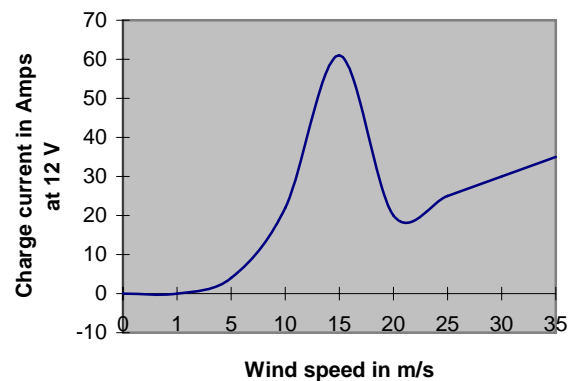
- Composite aerofoil blades of durable glass fibre;
- Blade diameter 1800 mm;
- Computer designed blades :
- High efficiency and low electricity production costs
- Battery charging from 3 m/s Wind (8 km/h)
- Low noise levels
- Maritime proof materials,
- Automatic furling system activates in excessive winds to mechanically protect turbine and reduce stresses;
- Low vibration, fibre glass 3-phase generator
- High inertia generator flywheel effect generates smooth, continuous power between gusts
- Designed to mount on 41mm internal diameter tube
- No electro-magnetic indifference with electronic equipment
- CE certified to EU norms
- Includes automatic operation controller
- Maintenance free;
- Power: max. 720 Watt
rated at 10 m/s: 340 Watt
- Net weight: 38,5 kg

Your advantages:

- greatly extended battery life
- batteries are always charged and ready for
 - motor starting
 - lighting
 - pumps
 - refrigerators
 - navigation systems
 - inverters
 - TV etc.



Power curve FM 1803



Grid-connected systems in every engine-power class

Profit from our **25 year SUNSET** experience!

Ask for our separate catalogue for grid-connected systems or download it on our internet homepage www.sunset-solar.com!



**Grid-connected system
130 kW SUNPpower Roof®
single crystal modules AS 170**



We supply grid-connected systems in every engine - power class for one family houses, large- and industrial systems, systems for free field installation as well as SUNtruck®er.

**Grid-connected system
as a balcony trim
amorphous modules KA 60**



**Grid-connected system 5 kW
with the module KA 60
and thermal solar system**

All grid-connected systems are interpreted by us customised after your allegations. The offered systems consist of high quality parts, which have proved themselves many times at differentest applications. The balanced components give ideal system exploitation and high efficient energy recovery.



**SUNtruck® er 6,6 kW
single crystal modules AS 1206**

Solar generators

Since the end of 2003 we deliver all grid-connected systems with SUNSET AS and TWIN solar generators, with selected stringing. With this optimised wiring of the modules you will get the maximum output. You receive this more performance quite automatic and without price premium from us. We deliver besides our SUNSET modules also modules from AstroPower, Kaneka and Shell Solar.

SUN3Grid® and SUNstring® Inverters

In every bigger system we use the preferredly **SUN3Grid®** and **SUNstring®** inverters of the youngest generation. With these so-called string inverter the solar generators go to module strings and are directly connected with the inverter. We deliver our **SUN3Grid®** and **SUNstring®** inverters ex works with display for the indication of the operating data, interface for data capture and 5 years guarantee. All safety technical and for the operation necessary protective circuits are integrated in the inverter.

NEW



Mounting systems

We offer for almost every roof the fitting and assembly friendly sub-construction. The standard systems SDMA and FDMA are easy for use through their low modification, for the most roof coverings, without problem.

Our **roof integration system SUN-Power Roof®** makes a harmonic integration of the solar generators into the roofing possible.

Solar heat from SUNSET

Besides our photovoltaic products, we also deliver solar heat for







- solar hot water systems**
- solar hot water and central heating support system**
- solar hot water with absorber systems**
- large systems for big facilities, swimming pools etc.**



Solar-Systems for hot water give a **very high and cheap availability** for hot water in the summer months for family houses and a increased covering of heating energy requirements for the rest of the season.

The sun's rays fall on the collector and are converted to heat. The solar controller regulates the flow of heat to the storage tank. The pump in the solar unit pumps the solar heat to the storage tank. Safety installations are also included in the solar unit to ensure that the whole system works reliably. The heated mains water is stored in the storage tank to be use for showers, baths, washing machines, dishwashers etc. A backup heater is used to support the system and ensure the supply of hot water during a poor period of weather.

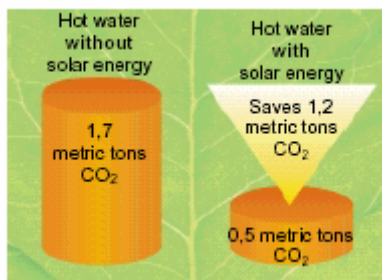
SUNSET high quality-collectors:

-  high quality assurance by ISO 9002
-  environmental label „Blue Angel“, „because
-  high coefficient and ecologically certification“
-  design certification by TÜV Bayern e.V.
-  test Rapperswil
-  excellent price-performance ratio

Our **Solar-Systems for hot water and central heating support** give a **very high and cheap availability** for hot water for family houses and a high variable allotment of room heat.

Edited system technology makes it possible, not only to prepare warm water, it also gives room heat. Heart of this technology is the **combined storage tank** which is used as heat station. It saves the energy of the sun and is additional carrying the energy of several more heat sources, e.g. auxiliary solid fuel, oil-, gas- or electric heating. The higher the heat isolation standard of your house is, the higher is the allotment of solar heat in your rooms.

The future will be powered by solar energy

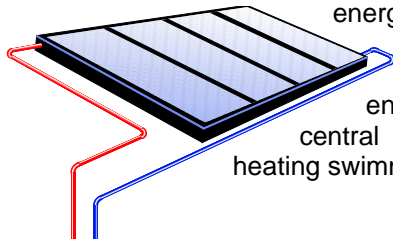


Why solar technology?

- Solar energy is environmentally friendly
- Solar energy is benign
- Solar energy is renewable
- Solar energy is affordable for everyone

How does solar technology work?

The principle is simple: the sun's rays are absorbed by the collectors and heat the water of the solar energy system. The closed system extends from the roof of the cellar of the house and conducts the sun's heat via a heat exchanger into a storage tank. The more solar collectors are installed, the more energy can be collected and used to heat hot water or to supplement a central heating system. It goes without saying that combined systems for heating swimming pools can be offered in any size.



**Do you need more information on this subject matter?
We will be glad to send you further information.**



Price list

01. January 2007

| <u>Solar modules</u> | article | purchase | piece price € |
|----------------------|---------|--------------------------------|--------------------------|
| SM 6/36 | 10007.1 | for one piece take 5 pieces | 101,00 € 99,50 € |
| SM 10/36 | 10000 | for one piece take 5 pieces | 153,00 € 147,70 € |
| SM 10 L/36 | 10000.2 | for one piece take 5 pieces | 159,00 € 152,80 € |
| SM 15/36 | 10031 | for one piece take 5 pieces | 232,00 € 225,90 € |
| SM 20/36 | 10020 | for one piece take 5 pieces | 255,40 € 251,30 € |
| SM 30/36 | 10033 | for one piece take 5 pieces | 286,20 € 282,00 € |
| SM 30 L/36 | 10034 | for one piece take 5 pieces | 316,90 € 312,80 € |
| SM 45/36 | 10022 | for one piece take 4 pieces | 358,00 € 353,90 € |
| SM 45 L/30D | 10023.6 | for one piece take 4 pieces | 399,00 € 394,90 € |
| AS 6506 | 10030 | for one piece take 4 pieces | 481,00 € 474,90 € |
| AS 8005 | 10002 | for one piece take 4 pieces | 542,70 € 538,60 € |
| AS 110 | 10038 | for one piece take 4 pieces | 758,00 € 747,80 € |
| AS 120 | 10037 | for one piece take 4 pieces | 819,60 € 809,40 € |
| AS 130 | 10046.2 | for one piece take 4 pieces | 881,20 € 870,90 € |
| AS 150 | 10204 | for one piece take 4 pieces | 1.015,00 € 1.004,30 € |
| AS 160 | 10205 | for one piece take 4 pieces | 1.086,40 € 1.076,00 € |
| AS 170 | 10255 | for one piece take 4 pieces | 1.158,20 € 1.147,90 € |

For large quantities we ask for your enquiry.

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All former price-lists are herewith losing their validity.

SUNSET Energietechnik GmbH reserves to himself to change prices, technical details and conditions everytime and without prior notice.



Price list

01. January 2007

| <u>Charge controller</u> | article | purchase | | piece price € |
|--------------------------|---------|---------------|--|---------------|
| SOL 5 | 10121 | for one piece | | 46,00 € |
| SOL 5.6x | 10113 | for one piece | | 66,60 € |
| SOL 8.8x | 10115 | for one piece | | 81,00 € |
| SR 12 | 10152 | for one piece | | 91,30 € |
| SR 20 | 10151 | for one piece | | 132,30 € |
| SR 2020 M | 10165 | for one piece | | 183,60 € |
| SR 30 | 10150 | for one piece | | 152,80 € |
| SR 3030 M | 10166 | for one piece | | 204,15 € |
| | | | | |
| Solomon software package | 10117 | for one piece | | 81,00 € |
| | | | | |
| SLR 308 | 15505 | for one piece | | 224,70 € |
| SLR 316 | 15503 | for one piece | | 265,70 € |
| | | | | |
| IRS 110 | 15506 | for one piece | | 111,80 € |
| | | | | |
| SLR 1010 S | 15499 | for one piece | | 183,60 € |
| SLR 1010 D | 15498 | for one piece | | 265,70 € |
| SLR 2020 S | 15497 | for one piece | | 255,40 € |
| SLR 2020 D | 15496 | for one piece | | 327,25 € |

| <u>Clock timer</u> | article | purchase | | piece price € |
|-------------------------|---------|---------------|--|---------------|
| CPU 35u digital 12 Volt | 10156 | for one piece | | 107,00 € |
| CPU 35u digital 24 Volt | 10157 | for one piece | | 107,00 € |
| QSU 35u analog 12 Volt | 10158 | for one piece | | 101,00 € |
| QSU 35u analog 24 Volt | 10159 | for one piece | | 101,00 € |

| <u>Measuring instruments</u> | article | purchase | | piece price € |
|----------------------------------|---------|---------------|--|---------------|
| Ampere hour counter DCC 4000 | 9000 | for one piece | | 317,00 € |
| Ampere hour counter DCC 4000 E | 9010 | for one piece | | 255,40 € |
| Voltmeter DCV 2000, 12/24 Volt | 9020 | for one piece | | 142,60 € |
| Amperemeter DCA 2000, 12/24 Volt | 9021 | for one piece | | 142,60 € |
| Sensor resistor 60 A | 9030 | for one piece | | 50,30 € |
| Sensor resistor 100 A | 9031 | for one piece | | 81,00 € |
| Sensor resistor 200 A | 9032 | for one piece | | 122,00 € |
| Sensor resistor 600 A | 9033 | for one piece | | 152,80 € |

| <u>Solar batteries</u> | article | purchase | | piece price € |
|-------------------------------------|---------|---------------|--|---------------|
| SUNSET solar battery 105 Ah / 12 V | 10052 | for one piece | | 153,80 € |
| SUNSET solar battery 255 Ah / 12 V | 10054 | for one piece | | 399,00 € |
| Central degassingfor battery 255 Ah | | for one piece | | 49,20 € |
| Battery lug clamps (set +/-) | 10062 | for one piece | | 6,10 € |

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01. January 2007

Sinus inverter for stand-alone systems

| | article | purchase | | piece price € |
|-----------|---------|---------------|--|---------------|
| WE 1,5/12 | 13068 | for one piece | | 209,30 € |
| WE 2,5/24 | 13067 | for one piece | | 261,60 € |
| WE 400/12 | 13070 | for one piece | | 511,90 € |
| WE 400/24 | 13071 | for one piece | | 511,90 € |
| WE 600/12 | 13072 | for one piece | | 768,40 € |
| WE 600/24 | 13073 | for one piece | | 768,40 € |
| WE 800/12 | 13086 | for one piece | | 1.024,80 € |
| WE 800/24 | 13087 | for one piece | | 1.024,80 € |
| WE 13/12 | 13082 | for one piece | | 1.496,79 € |
| WE 15/24 | 13083 | for one piece | | 1.537,80 € |
| WE 20/12 | 13090 | for one piece | | 1.927,60 € |
| WE 22/24 | 13099 | for one piece | | 1.999,40 € |
| WE 30/24 | 13078 | for one piece | | 2.625,20 € |
| WE 35/48 | 13097 | for one piece | | 3.281,70 € |

Compressor-cooling unit

| | article | purchase | | piece price € |
|---------------------|---------|---------------|--|---------------|
| Freezer STKT 245 | 12110 | for one piece | | 1.578,80 € |
| Refrigator C 130 LA | 12154 | for one piece | | 922,25 € |
| Refrigator C 115 IA | 12158 | for one piece | | 881,20 € |
| Refrigator C 85 IA | 12156 | for one piece | | 819,70 € |
| Refrigator C 75 LA | 12152 | for one piece | | 788,90 € |
| Refrigator C 45 LA | 12150 | for one piece | | 737,60 € |
| Cooler C 26 | 12170 | for one piece | | 563,20 € |

Lights

| | article | purchase | | piece price € |
|---|---------|---------------|--|-------------------|
| Pendent lamp set 9 Watt / 12 Volt Energy-saving lamp 9 Watt ca. 60 Watt light power (lamp light) | 10070 | for one piece | | 61,45 € |
| Outdoor lamp 9 Watt / 12 Volt Energy-saving lamp 9 Watt ca. 60 Watt light power (lamp light) | 10081 | for one piece | | 71,70 € |
| Backup energy-saving la. 9 Watt / 12 Volt | 10077 | for one piece | | 10,20 € |
| Solar Street Light Mastsize ca. 450 cm, 26 Watt lamp 2 x AS 1206, 4 x solar battery 105 Ah other dimensionings on enquiry | 10100 | for one piece | | 4.185,50 € |
| Solar Street Light Mastsize ca. 450 cm, 26 Watt lamp 1 x AS 1206, 2 x solar battery 105 A other dimensionings on enquiry | 10100 | for one piece | | 3.141,20 € |
| Solar Street Light with LED-light technology | | | | price on enquiry! |

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Price list

01. January 2007

| <u>Solar garden lamps</u> | article | purchase | piece price € |
|---|---------|---------------|----------------|
| Stainless steel lamp „Titan“ | 18811 | Einzelabnahme | 15,30 € |
| Stainless steel lamp „Elegance“ | 18814 | Einzelabnahme | 44,60 € |
| Solar Marker Light | 18770 | for one piece | 15,30 € |
| Solar Marker Light 2er-Set | 18771 | for one piece | 25,30 € |
| Solar Marker Light 4er-Set | 18772 | for one piece | 51,10 € |
| Candle Light # discounted model | 18792 | for one piece | 11,80 € |
| Globe Light white | 18799 | for one piece | 16,80 € |
| Mini Globe Light amber | 18801 | for one piece | 15,30 € |
| Pathmarker red # discounted model Double-set | 18754 | for one piece | 10,20 € |
| Solar Garden Light | 18780 | for one piece | 18,80 € |
| Solar Garden Light Double-set | 18781 | for one piece | 35,10 € |
| Gold Light With golden LED's | 18789 | for one piece | 20,40 € |
| Gold Light, 3er Set With golden LED's | 18790 | for one piece | 53,90 € |
| Party Light, 3er Set With coloured LED's | 18788 | for one piece | 61,30 € |
| Way Light | 18740 | for one piece | 22,25 € |
| Solar Pole Light | 18774 | for one piece | 25,05 € |
| Solar Pole Light Double-set | 18775 | for one piece | 45,30 € |
| Night Light | 18784 | for one piece | 23,90 € |
| Crystal Light | 18748 | for one piece | 46,50 € |
| Maxi Pole Light | 18779 | for one piece | 79,70 € |
| Sensor Light With motion detector Mounting at the house wall | 18761 | for one piece | 101,00 € |
| Crystal Sensor Light*) With motion detector | 18798 | for one piece | 61,40 € |

Discounted models with special prices / remaining stocks „while stocks last“

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Price list

01. January 2007

Accessories for garden lamps

| | article | purchase | piece price € |
|--|---------|---------------|---------------|
| Park Light Installation kit for 3 lamps 1) | 18765 | for one piece | 40,90 € |
| Park Light Installation kit for 5 lamps 1) | 18766 | for one piece | 57,30 € |

1) You can choose the following lamps: Garden Light, Way Light, Night Light, Crystal Light, Gold Light und Party Light. You have to acquire the lamps extra!

| | | | |
|---|-------|---------------|---------|
| Pedestal for Candle Light t | 18019 | for one piece | 6,80 € |
| Wall brackets for Solar Marker Light | 18773 | for one piece | 10,60 € |
| Column elongation for Solar Marker / Pole L. | 18777 | for one piece | 8,90 € |
| Column elongation for Set of 2 Solar Marker / Pole Light | 18778 | for one piece | 14,70 € |
| Column elongation for Solar Maxi Pole Light | 18768 | for one piece | 14,70 € |
| Base for Pole and Solar Maxi Pole Light | 18767 | for one piece | 13,85 € |

Solar pump

| | article | purchase | piece price € |
|--|---------|---------------|---------------|
| SP 700 | 900005 | for one piece | 97,35 € |
| Sprinkler diffuser for SP 700 | 900021 | for one piece | 9,15 € |
| Sprinkler diffuser set for SP 700 | 900023 | for one piece | 24,50 € |

Solar pump set

| | article | purchase | piece price € |
|----------------------------------|---------|---------------|---------------|
| SPS 700 | 900105 | for one piece | 245,20 € |
| SPS 700/10 (2 x SM 10/36) | 900106 | for one piece | 368,30 € |
| SPS 700/30 | 900107 | for one piece | 440,00 € |

Solar Spout

| | article | purchase | piece price € |
|---------------------------|---------|---------------|---------------|
| Solar Spout | 90003 | for one piece | 193,90 € |
| Solar Spout „Duet“ | 90004 | for one piece | 358,00 € |

Deep well pump

| | article | purchase | piece price € |
|---------------|---------|---------------|---------------|
| STP 70 | 901070 | for one piece | 922,25 € |

Deep well pump set

| | article | purchase | piece price € |
|---------------|---------|---------------|---------------|
| STS 70 | 901170 | for one piece | 1.589,00 € |

Bei For large quantities we ask for your enquiry.

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All former price-lists are herewith losing their validity.

SUNSET Energietechnik GmbH reserves to himself to change prices, technical details and conditions everytime and without prior notice.



Price list

01. January 2007

Module – supporting frame

| | article | purchase | piece price € |
|--|---------|---------------|---------------|
| SGM 8 Inclination is individual adjustable | 10060 | for one piece | 337,50 € |
| SGM 4 Inclination is individual adjustable | 10061 | for one piece | 265,70 € |

Substructure

| | article | purchase | piece price € |
|--|---------|----------|---------------|
| Inclined roof Mounting Rails, (SDMA) stainless steel and aluminium | 21400 | pro kW | 508,80 € |
| Plain roof Mounting Rails, (FDMA) stainless steel and aluminium | 21402 | pro kW | 758,00 € |

Solar cable

| | article | purchase | piece price € |
|---|---------|----------|---------------|
| Solar cable Titanex H07 Ø 2,5 mm | 21301 | | 1,35 € |
| Solar cable Titanex H07 Ø 4,0 mm | 21302 | | 1,95 € |

Wind generators

| | article | purchase | piece price € |
|-----------------------------|---------|---------------|-------------------|
| WG 503/12 V | 15520 | for one piece | 449,30 € |
| WG 913/12 V - Marine | 15516 | for one piece | 753,00 € |
| WG 913/24 V - Marine | 15517 | for one piece | 753,00 € |
| FM 1803/12 V | 15518 | for one piece | 2.153,30 € |
| FM 1803/24 V | 15519 | for one piece | 2.153,30 € |
| FM 1803/36 or 48 V | | | price on enquiry! |

Accessories for wind generators

| | article | purchase | piece price € |
|---|---------|---------------|---------------|
| Charge regulator HRS 503/12V f. WG 503 | 15530 | for one piece | 105,60 € |
| Charge regulator HRS 913/12V f. WG 913 | 15531 | for one piece | 116,90 € |
| Charge regulator HRS 913/24V f. WG 913 | 15532 | for one piece | 116,90 € |
| Mast for WG 503 | 15507 | for one piece | 186,70 € |
| Mast for WG 913 | 15508 | for one piece | 228,75 € |

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