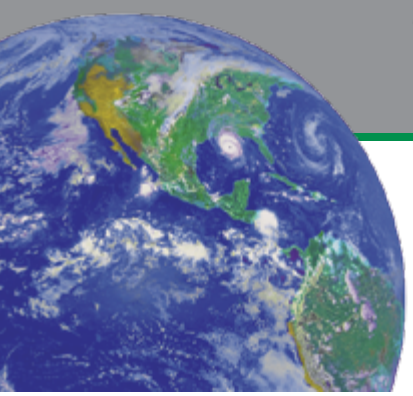
MERKUR®

RENEWABLE ENERGY

Wind and Solar Systems



MERKUR®

GERMAN TECHNOLOGY

Contents

Wind and Solar Systems

Ulrich Scheller
Export Manager

For over 100 years – since the time of Werner von Siemens – German Technology is renown for outstanding innovation and technical leadership. **MERKUR**® Ueberseehandel GmbH is committed to this long tradition.

Under **MERKUR**® German Technology we develop and produce warranted , durable high quality products in the following segments:

- Electrotechnology
- DUPROLUX® Lighting
- Metering
- Power Distribution
- Climatisation
- Renewable Energy

MERKUR® clients worldwide can rely on our vast experience. We offer authorised distributors competitive prices better allowing them to compete in the market. We also successfully cooperate with contractors who are bidding for public utility tenders.

Clean renewable energy production is compulsory for a healthy and prosperous life. Limiting the use of carbon-based energy resources with their highly pollutive side effects requires innovative and effective technologies to be implemented in order to cope with rising energy demand.

MERKUR Renewable Energy products are state-of-the-art and meet highest technical requirements. We focus on durable and eco-friendly materials that perform at the lowest possible energy consumption and reduce the environmental footprint.

Our **MERKUR** Vertical Axis Wind Generators are suitable for commercial and private usage. They are especially useful in the segment of public lighting systems and signalling installations.

Wind and solar energy are both used in our **MERKUR** Hybrid Systems, which are perfect power supply applications for:

- domestic and commercial buildings
- agriculture
- DUPROLUX® street lighting
- traffic signals
- telecommunications
- offshore environments
- boats
- camps
- off grid power supplies

MERKUR also produces DUPROLUX® solar lights and solar ventilators.

MERKUR is a reliable partner with a tradition of providing individually tailored products and solutions in accordance with customers' needs. Contact us and we gladly assist you with more details about our products and services. Get in touch with us!

Export Manager

MERKUR Vertical Axis Wind Turbines

MERKUR Vertical Axis Wind Turbines

MERKUR Vertical Axis Wind Turbine System (MVAWT) has been developed on the idea of-gyroscopic rotation - rotation around a vertical axis, independent of wind direction. The MVAWT system offers the following features which make it the ideal energy source for a multitude of applications:

- High functionality due to the application of magnetic levitation for generators and a Savonius design for horizontal rotators
- Very low start up wind speed of 1m/sec
- High efficiency due to continuous operation which is up to 35% higher compared to horizontal wind turbines, depending on the local wind characteristics
- Less dependance on terrain features
- Low noise emmission
- Small dimensions and weights
- Minimised static forces due to balanced design allowing neat unsuspended single-pole installation
- Short amortization period
- Light sturdy structure by use of Al-Alloy, Titanium Alloy and stainless steel
- Product warranty for 1 year (natural desas-ter, force majeure and man made demage excluded)
- More than 20 years continuous operational rated life time of wind turbine
- Aesthetic design

MERKUR Vertical Axis Wind Turbines

Comparison	**MERKUR** Vertical Axis Wind Turbine (MVAWT)	Conventional Horizontal Axis Wind Turbine (HAWT)
Design	■ gyroscopic rotation with constant attitude ■ compact ■ balanced ■ light structure ■ aerodynamic design with best cW values	■ turbine rotates ■ needs space ■ heavy structure ■ high wind loads on structure ■ unbalanced
Features	■ low start up wind speed up to 35% higher operation ratio ■ widely independent from terrain ■ noise abatement feature sound lower than 40dß ■ shutdown speed lower ■ bird sensative easy to detect by birds and bats	■ high start up wind ■ high idle time ratio ■ high obstacle free installation ■ high noise up to 100dß emission ■ higher windspeed tolerance ■ bird issues

Applications:

- Domestic and commercial buildings
- Agriculture
- Remote areas
- Street lighting
- Traffic signals
- Telecommunication
- Offshore applications
- Boats and ships
- Camps
- Off-grid power supply

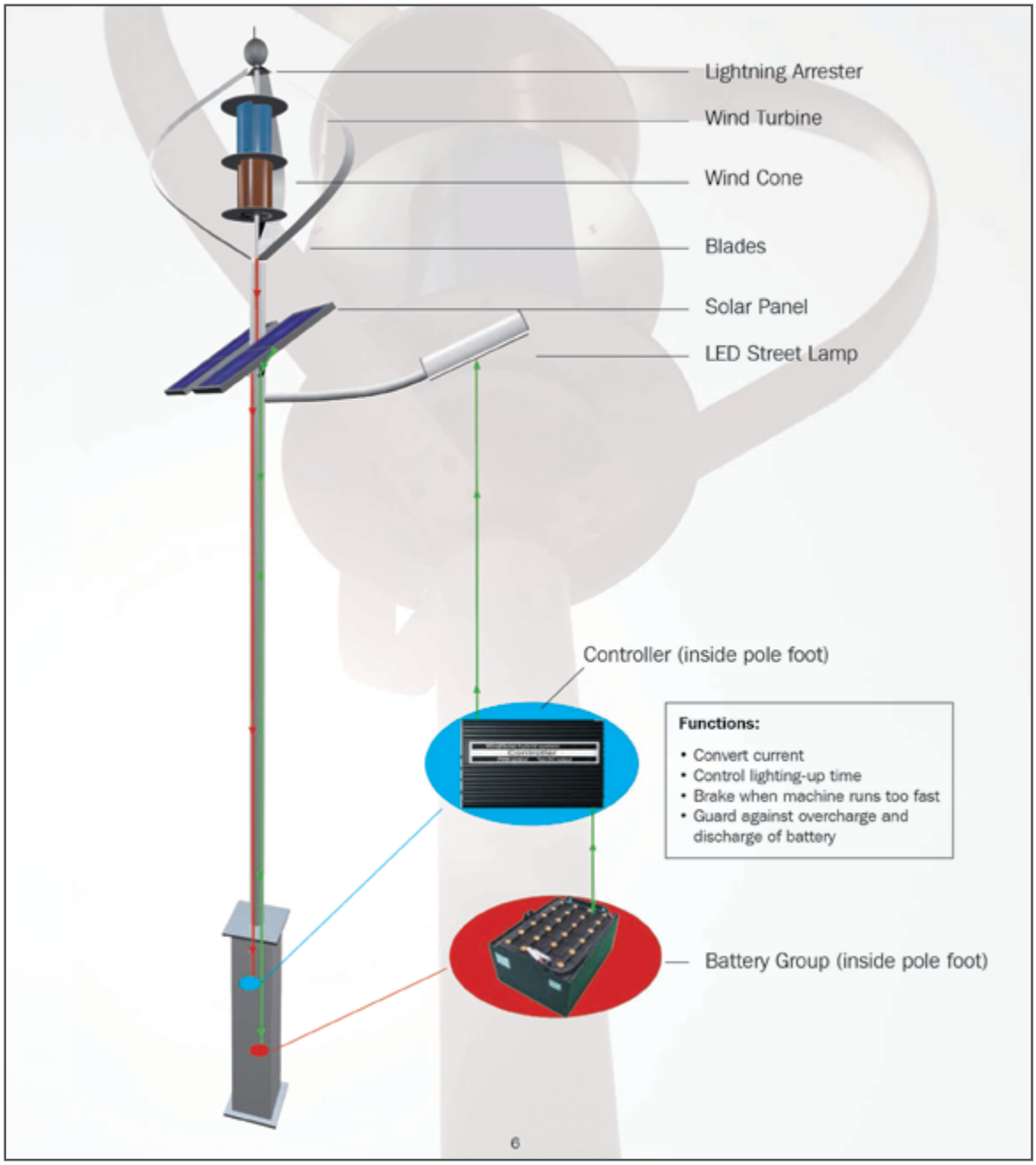
MERKUR Vertical Axis Wind Turbines

MERKUR VERTICAL AXIS WIND TURBINES - Specifications

Specifications	MVAWT400	MVAWT600	MVAWT1000	MVAWT2000	MVAWT3000
Rated Power	400W	600W	1000W	2000W	3000W
Size (dia./height)	01060/1200mm	01320/1320mm	02400/2340mm	03170/3230mm	03600/3530mm
Weight	29kg	40kg	188kg	335kg	419kg
Blade Material	Aluminium Alloy	Aluminium Alloy	Aluminium Alloy	Aluminium Alloy	Aluminium Alloy
Blade Quantity	3	3	3	3	3
Min Starting Wind speed	1m/s	1m/s	1m/s	1m/s	1m/s
Minimum Power Generating Wind speed	2m/s	2m/s	2m/s	2m/s	2m/s
Min. Charging Wind speed	2,5m/s	2,5m/s	3m/s	3m/s	3m/s
Rated Wind Speed	12m/s	12m/s	12m/s	13m/s	13m/s
Cut-off Wind Speed	15m/s	15m/s	15m/s	15m/s	15m/s
Survival Wind Speed	65m/s	65m/s	60m/s	60m/s	60m/s
Generator Type	AC, 3-phase	AC, 3-phase	AC, 3-phase	AC, 3-phase	AC, 3-phase
Controller Output Voltage	DC12V	DC12V	DC12V	DC12V	DC12V
Controller Output Current	< 20Amp	< 20Amp	< 50Amp	< 80Amp	< 130Amp
Controller Braking System	3-phase short-circuit braking over speed automatic	3-phase short-circuit braking over speed automatic	3-phase short-circuit braking over speed automatic	3-phase short-circuit braking over speed automatic	3-phase short-circuit braking over speed automatic
Ambient temp	-30°C ~ +50°C	-30°C ~ +50°C	-30°C ~ +50°C	-30°C ~ +50°C	-30°C ~ +50°C

MERKUR Vertical Axis Wind Turbines

MERKUR VERTICAL AXIS WIND TURBINES - System Functionality

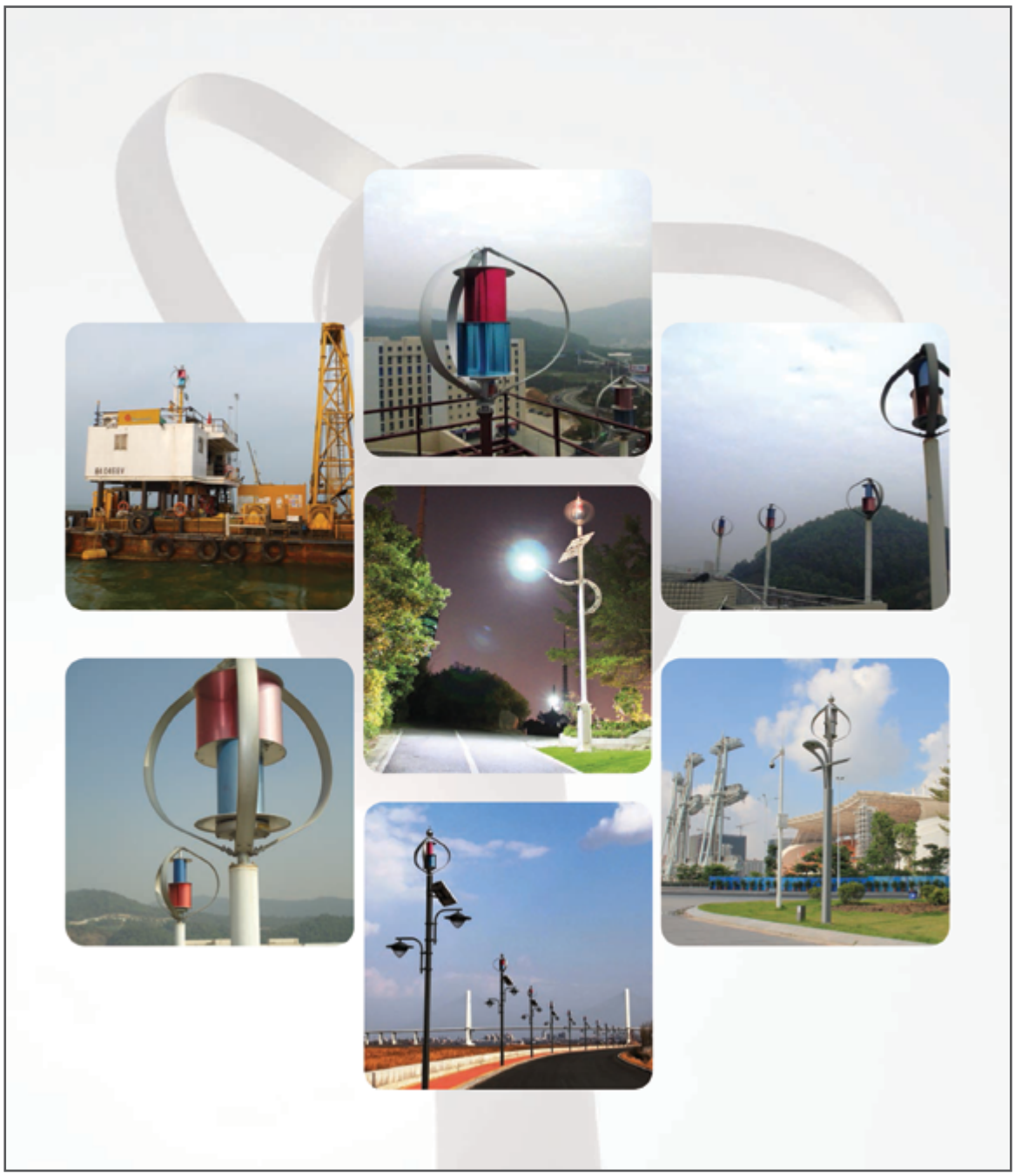


MERKUR Vertical Axis Wind Turbines

MERKUR VERTICAL AXIS WIND TURBINES - Technical Parameters

Specifications	DYG400	DYG600	DYG1000	DYG2000	DYG3000
Rated output power)	400W	600W	1000W	2000W	3000W
Rated output voltage	DC12V	DC12V	DC12V	DC12V	DC12V
Number of blades	3	3	3	3	3
StartWind speed	1m/s	1m/s	1m/s	1m/s	1m/s
Rated Wind Speed	12m/s	12m/s	12m/s	13m/s	13m/s
Rate-limiting method	3-phase short-circiut or self-actuating brake by controller, Manual brake partial pressure, partial current brake, slow running funtion	3-Phrase short cir-cuit by NFB brake	3-Phrase short cir-cuit by NFB brake	3-Phrase short circuit braking over speed auto matic	3-Phrase short circuit braking over speed auto matic
Working Wind Speed	3.5-18m/s	3.5-18m/s	3.5-18m/s	3.5-18m/s	3.5-18m/s
Survival Wind Speed	40m/s	40m/s	40m/s	60m/s	60m/s
Machine set efficiency	≥:22%	≥:22%	≥:22%	≥:22%	≥:22%
Generator efficiency	≥:80%	≥:80%	≥:80%	≥:70%	≥:70%
Rotor power coefficient	≥:0,36%	≥:0,36%	≥:0,36%	≥:0,36%	≥:0,36%
Rated rotate speed	≤:400r/min	≤:400r/min	≤:400r/min	≤:26or/min	≤:180r/min
Resistance from motor start	≤:0.1N.M	≤:0.1N.M	≤:0.2N.M	≤:0.2N.M	≤:0.2N.M
Noise	≤:40DB	≤:40DB	≤:40DB	≤:40DB	≤:40DB
Operating temperature	30°C - +50°C	30°C - +50°C	30°C - +50°C	30°C - +50°C	30°C - +50°C
Safety capability	Anti-shedding screw and hard to disassemble	Anti-shedding screw and hard to disassemble	Anti-shedding screw and hard to disassemble	Anti-shedding screw and hard to disassemble	Anti-shedding screw and hard to disassemble
Size (diameter l height)	01060/1200 mm	01320/1320mm	02000/2100mm	03170/3230mm	03600/3530mm

MERKUR Off-grid Street Lighting System



MERKUR Off-grid Street Lighting System

MERKUR German Technology
MHSL-400-60 System Components:

- **MERKUR** Wind Turbine MVAWT400, 400W, 12V, DC (1 set)
- Solar Panei240W (2x120W) monocrystal silicon, hail stone proof, toughened glass laminated (2 sets)
- Wind and Solar Hybrid Controller 26HL 12V 400W with LCD operating and display function (1 set)
- Single Head LED lantern, 12V DC, 60W, 1001m/W PF >0,96 IP65, 3000K or 5000K
- Battery 12V I 100AH (1 set)
- 50m Main Cables 3x4sqmm + 2x4sqmm
- Q235 steel pole, 5mm wall thickness, 8-10m height (1 set)

Specifications	MHSL-400-60
Input Power:	60W
Rated Valtage:	12V (no electric shock hazard)
Luminous Flux:	1001m/W
Ground Rated Illumination:	7-10 Lux/rn
Illumination Uniformity:	0,6-0,7
Protection Class:	IP65
Rated Working Temperature:	-30°C to + 50°C
Rated Working Altitude:	up to 5000m MSL
Atmosphere:	suitable for rainy and salty athmosphere
Working Wind Speed:	1-30m/s
Structural Survival Wind Speed:	65m/s 200kg/sqm
Wind Turbine Rated Operational Life:	>20 years
ambient temperature (batteries)	-20°C to + 60°C

MERKUR German Technology
T6/T12 Deep Cycle Batteries

- Unique deep cycle design for quick recharge and long life features
- valve regulated rechargeable acc. to CE
- U L approved
- 6V Type T6 and 12 V Type T12
- from 10 Ah up to 250 Ah
- weight from 1, 7 to 69,5kg
- low self discharge

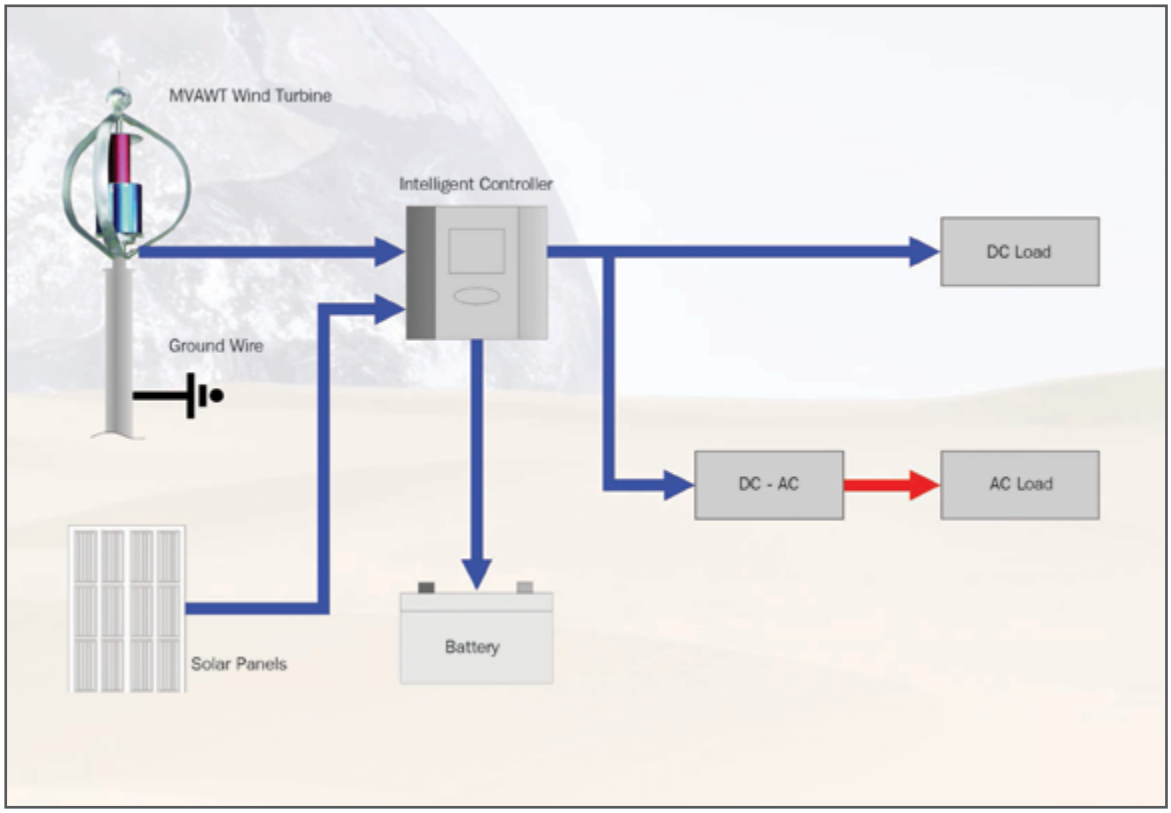
MERKUR German Technology
Intelligent Controller SWHC

The **MERKUR** German Technology Advanced Solar/Wind Hybrid Controller is specially designed for high-end small scale solar/wind hybrid systems. Adopting PWM (pulse-width modulation) the device controls the wind turbine and the solar panels, charges the batteries, supplies power to the lighting unit and monitors the entire system. 12V DC and 24V DC programmable on/off schedule intelligently regulating the lighting power according to remaining battery capacity. Highly reliable stand alone device for remote unattended operation. It is designed for:

- Urban Lighting
- Landscape Lighting
- Highway Lighting
- Garden Lighting
- Light Boxes
- Speed Control Systems

MERKUR Off-grid Street Lighting System

MERKUR OFF-GRID STREET LIGHTING SYSTEM - Installation Diagram



Photovoltaic Power Supplies (On-Grid)

Photovoltaic Power Supplies (On-Grid)

Our on-grid solar power systems only supply electricity during sunshine. Anti-parallel diodes in each solar panels prevent interuption of power supply if an individual panel is shadowed and thereby not producing any power. The inverter operates without transformer inefficiency up to 96% efficiency. The MPP (Maximum-Power-Point-Tracking) increases the efficiency of the solar panel up to 30%. The systems are designed to inject electrical energy into the main power grid. This reverse energy injection helps to disload the power stations, to reduce CO2 emmissions and is sponsored in some countries by the ministries.

Included in the systems are:

- Mounting frame for ground or roof mounting of the modules.
- Cables and terminals.
- Communucation acessories for data logs via notebook computer.
- Guarantee 5 years (optionally 10 years)

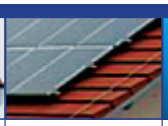
Main features:

- Input voltage: 120V DC ... 500V DC
- Protection degree: IP65
- Guarantee: Up to 5 Years (optional 10 Years)
- Ambient temperature: -25°C up to +50°C (up to 82° on request)

	Solar Photovoltaic Power System On-Grid 5 KW	Solar Photovoltaic Power System On-Grid 5 KW
Order code	PVOG-SOLAR9-005	PVOG-SOLAR9-003
Required sqm.	20 mono crystalline solar modules of 250Wp	13 mono crystalline solar modules of 250Wp
Inverter	1 OnLine Synchron Inverter 5000 Watt 230V 50Hz	1 OnLine Synchron Inverter 3000 Watt 230V 50Hz
Average Annual Capacity Central European Climate	ca. 5100 KWh	ca. 3100 KWh
Nominal-Power	4600 Watt	2800 Watt
Power	5000 Watt	3000 Watt
Ambient Temperature:	-30°C ~ +50°C	-25°C ~ +55°C
Weight	520 kg	308 kg

Solar Systems and Packages

Photovoltaic Island Systems and Packages

							
Order.-Nr.:	PVIM-SOLAR80	PVIM-SOLAR81	PVIM-SOLAR83	PVIM-SOLAR90	PVIM-SOLAR91	PVIM-SOLAR95	PVIM-SOLAR97-1
Solarmodul (monocrystallin)	40 Wp	40 W / 30 W	20 W	2* 50 W	2* 100 W	16* 200 Wp/ 40* 200 Wp	3600 W
Dimensions	630 x 550 x 28 mm	630 x 550 x 28 mm	630 x 550 x 28 mm	832 x 538 x 35 mm	832 x 1000 x 35 mm	32 / 70 sqm	6000 mm x 4000 mm x 2000 mm
Max. operating time	35 Hrs	26 Hrs	26 Hrs	12 Hrs	10 /12 Hrs	up to 72 Hrs at 2000 W	25 Hrs at 1500 W
Battery	High performance solar GEL 12 V	High performance solar GEL 12 V	High performance solar GEL 12 V	Solar GEL 12 V 100Ah	Solar GEL batteries 12 V 100Ah	20 / 40 / 80 / 120 * solarakkus 12 V 200Ah	32* maintenance free high performance solar lead gel batteries
Inverter	No inverter	No inverter	No inverter	500W 230V 50Hz, modified short time peak power start up Power 1500W	1000W 230V 50Hz modified sinus or 1500 / 2000 W 230V 50Hz, power, sine wave, interference-free short time peak load / start up power 2500W	5000/15000 W 230V 50Hz, continuous power, sine wave, interference-free short time peak load / start up power 7500 W	6000 W peak power max. 7000 W / 10 Sec
Furthermore in the set	LED or Floures-cent lamp 1350 Lm 1x14 W with ECG	Decorative pendant light indoor 11 W Wall light outdoor 9 W	Indoor or outdoor wall light 9 W	–	–	–	Trailer 605 cm / 254 cm / 254 cm
	Waterproof casing IP65	–	–	–	–	Mounting rails for the installation of solar panels on a roof	Several outlets
Controller	with IR Sensor	Charge controller plus 2 wall switches	Charge controller plus 1 wall switch	Charge controller with overload protection	Charge controller with overload protection	Charge controller with overload protection	Charge conroller with overload protection
	10 m cabel	15/ 20 m cable	10 m cable	Cable and accessory	Cable and accessory	Cable and accessory	–
Weight	24 kg	24 kg	24 kg	46.1 kg	96 kg	280 / 580 kg	2400 kg
Required space	0,4 sqm	0,4 sqm	0,4 sqm	0,5 sqm	0,8 sqm	32 sqm / 80 sqm	34 sqm

Solar Water Heater AIQTXI

Integrated copper coil pressurized solar water heater AIQTXI

- inner tank: imported feod-grade stainless steel SUS304-2B 0,4mm
- copper coil: all red copper coil CD 12 x 1 ,0mm
- tank exterior shell: imported feod-grade stainless steel 0,4mm
- heat insulation: high density polyurethane integrated foam-forming layer
- vacuum tube: boresilicate glass vacuum tube, single target magnetron spultering' ALIAL-ALN(H)IAL-ALN(L)IALN coating
- bracket: stainless steel 1,5mm, suitable for slop and flat roof
- optional devices: auxiliary tank, electrical heater, intelligent controller, wilo booster-pump
- accessories: stainless bolt & nut, silicon rubber seal, dustproof rubber ring, plastic pipe holder, air-vent cap
- werking pressure: ;;. 6 Bar
- angle of bracket: 25° -50°

Item No.	Solar Vacuum Tube		Aperture Area (M2)	Capacity of Tank (L)	Diameter of Tank (MM)	Insulation (mm)	Packing CBM/SET	Loading Qty (sets)		
	qty / pcs	size / mm						20GP	40GP	40HQ
AIQTXI-5818S460S-18V	18	Φ58 X 1800	1.70	152.6	460	50	0.35	74	154	183
AIQTXI-5818S460S-24V	24	Φ58 X 1800	2.26	201.4	460	50	0.58	45	93	110
AIQTXI-5818S460S-36V	36	Φ58 X 1800	3.39	299.1	460	50	0.66	39	82	97

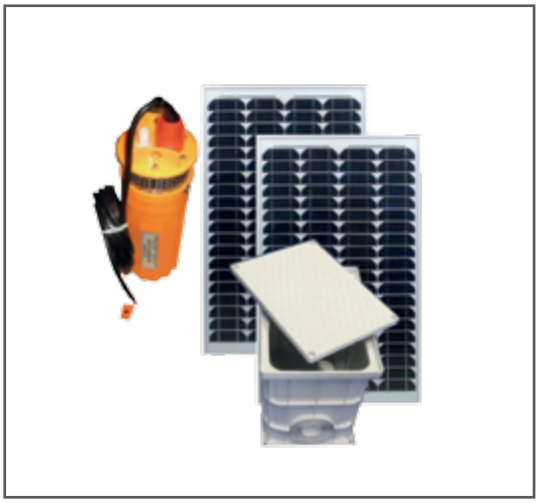
Solar Water Heater AIMQTXI

Integrated low-pressurized solar water heater AIMQTXI

- inner tank: imported feod-grade stainless steel SUS304-2B 0.4MM
- tank exterior shell: color steel plate 0.4MM
- heat insulation: high density polyurethane integrated foam-forming layer with 72-80 hours heat preservation
- vacuum tube: boresilicate glass vacuum tube, single-target magnetron spultering AL/ AL-ALN(H)I AL-ALN(L)IALN coating
- bracket: galvanized steei1.2MM (powder coating I paint baking process), universal bracket suitable for slope and flat roof
- optional devices: auxiliary tank, electrical heater, intelligent controller, anodemagne sium bar
- Accessories: stainless bolts & nuts, anti-aging silicon gasket, dustproof rubber ring , plastic pipeholder and air-vent cap
- angle of bracket: 25°-50°
- hot water output: 45-90°C
- designed pressure: 0.5 Bar

Item No.	Solar Vacuum Tube		Aperture Area (M2)	Storage Tank Capacity (L)	Outer Tank Size (MM)	Insulation (mm)	Packing CBM/SET	Loading Qty (sets)		
	qty / pcs	size / mm						20GP	40GP	40HQ
AIMQTXI-5818S460S-18V	18	Φ58 X 1800	1.70	152.6	Φ460	50	0.35	74	154	183
AIMQTXI-5818S460S-24V	24	Φ58 X 1800	2.26	201.4	Φ460	50	0.58	45	93	110
AIMQTXI-5818S460S-36V	36	Φ58 X 1800	3.39	299.1	Φ460	50	0.66	39	82	97

Solar Power Water Pump



Solar Power Water Pump 10L

(Independent photovoltaic powered water pump / Complete package)

Complete water supply system for sunny countries near the equator.

This pump delivers drinking water from a pump shaft with up to 20 meters depth to the surface. The pump is lowered into the shaft or into the tube and remains under water.A protection switch prevents dry running of the pump, if this is not in the water. The included controller protects the pump and increases the voltage at with reduced sun exposure.

When the sun shines, the pump starts automatically and runs continuous until sunset. By the attached switch the pump can be controlled manually, if required. The high-quality monocrystalline solar panels are for maximum performance even on slightly overcast sky.

They have sturdy aluminium frame, are sealed weatherproof and dustproof, and shock-resistant, life expectancy about 25 years.

Specifications:

- Maximum water rising depth: 30 meters
- Maximum flow rate: 10 liters per minute
- Cylindrical design of the pump with 10cm diameter
- Maximum module voltage 45V DC (at open circuit)
- Turn-on voltage for pump system from 18V to 32V adjustable
- Cut-off approx. 28V -
- Max. Pump power 150W
- Max. Output current 5 A
- Controller current consumption: 25mA
- Operating temperature range: -10°C to +45° C
- Output is short circuit protected
- Over temperature shutdown at about 80°C.
- The Module surface is approximately 1 square meter.
- Weight: 50kg
- Made in Germany

The set includes:

- Rugged diaphragm pump
- 2 Solar modules with sturdy aluminium frame.
- 20 meter pump hose
- Control unit, manual switches, cables and terminals.
- Ready to mount system including set-up plan

Solar Power Water Pump

Solar Power Supply for Water Pumps 4kW

(Independent photovoltaic power supply)

Isle system to operate water pumps max. 3 HP. Completed package with PV-modules, batteries and inverter.

Solar powered PV isle energy system for generating of 380 V AC voltage 50 Hz.

Ready to mount including set-up plan and:

- 16 pcs. monocrystalline solar panels, each 250Wp, thunderstorm-proof, life-time aprx. 25 years.
- Module power 4kW
- 1 charge controller with overload and deep discharge protection.
- Electrical power converter 4000 watt 230V 50Hz monophase, sine wave.
- Short-time peak load (inrush current) 5 kva.
- 4 high power solar gel batteries 12 Volt longlife.

Operating only during sunshine.

The required place for the modules is aprox. 32 sqm. The energy is sufficient to operate electrical applications or pumps up to 3000 Watt (4 HP).

Including mounting truss array for roof or floor mount of the solar modules, cables and clamps.

Converter and batteries should be mounted in a cellar, cottage or waterproof box in the shadow.

In some countries, this system will be sponsored partially by the government !

- 2 years guaratnee
- 20 years spareparts available
- Weight: 3570 Kgs.

Solar Power Water Pump

Solar Power Generator for Water Pumping 50kW

(Independent electric power supply)

Large system for water pumping or irrigation. Photovoltaic electricity with PV-modules and inverter 230/400 V.

Solar powered PV isle energy system for generating of 230 V AC voltage for pump motors.

Specifications:

- Solar module power: 50 KWp
- Max. motor power: 45 KW
- Starting power: 80 KW (1 min.)
- System: 220V - 230V 3 phase.

This system provides electrical energy only during the day. The pumps will stop during the night. For reduced pumping operation in the early morning and to allow soft motor starting, this system has a VFC regulator, wich automatically reduces the frequency for slower turning of the motors.

Monocrystalline solar panels, dustproof sealed, thunderstorm-proof, lifespan aprx. 25 years.

The high quality solar cell technology also ensures water pumping during overcasted sky (reduced pumping power).

- Ambient temperature: -40 °C bis + 60 °C
- Electrical power inverter 230V / 400V 50Hz triphase, sine wave.
- MPPT motor controller with overload and over temperature protection.
- Suitable for 3 phase motors: 220V - 230V / 380V - 400V / 50Hz-60Hz max 45 kw (apprx. 45 HP)

The required place for the modules is aprox. 800 sqm. The controller should be installed in a shady room, to have reduced ambient temperatures, to provide the guaranteed lifetime.

System consisting of:

- 212 Solar Modules german manufactured.
- Guarantee 5 Years / power guarantee 80% for 20 Years,
- Metal ground supporting structure galvanized, for the modules,
- MPPT charge regulator with 30% power increasing and motor converter,
- Guarantee 5 Years,
- Junction box with fuses, wires, connectors, breakers are included.
- Mounting truss array for floor mount of the solar modules.

Electrical planning of the system is included in the price. The installation of the system is not included. Concreting of the module supporting is not included

Solar Power Water Pump

Solar Power Generator for Water Pumping 80kW

(Independent electric power supply)

Large system for water pumping or irrigation. Photovoltaic electricity with PV-modules and inverter 230/400 V.

Solar powered PV isle energy system for generating of 230 V AC voltage for pump motors.

Specifications:

- Solar module power: 80 KWp
- Max. motor power: 75 KW
- Starting power: 80 KW (1 min.)
- System: 220V - 230V 3 phase.

This system provides electrical energy only during the day. The pumps will stop during the night. For reduced pumping operation in the early morning and to allow soft motor starting, this system has a VFC regulator, wich automatically reduces the frequency for slower turning of the motors.

Monocrystalline solar panels, dustproof sealed, thunderstorm-proof, lifespan aprx. 25 years.

The high quality solar cell technology also ensures water pumping during overcasted sky (reduced pumping power).

- Ambient temperature: -40 °C bis + 60 °C
- Electrical power inverter 230V / 400V 50Hz triphase, sine wave.
- MPPT motor controller with overload and over temperature protection.
- Suitable for 3 phase motors: 220V - 230V / 380V - 400V / 50Hz-60Hz max 75 kw (apprx. 75 HP)

The required place for the modules is aprox. 800 sqm. The controller should be installed in a shady room, to have reduced ambient temperatures, to provide the guaranteed lifetime.

System consisting of:

- 340 Solar Modules german manufactured.
- Guarantee 5 Years / power guarantee 80% for 20 Years,
- Metal ground supporting structure galvanized, for the modules,
- MPPT charge regulator with 30% power increasing and motor converter,
- Guarantee 5 Years,
- Junction box with fuses, wires, connectors, breakers are included.
- Mounting truss array for floor mount of the solar modules.

Electrical planning of the system is included in the price. The installation of the system is NOT included. Concreting of the module supporting is NOT included

Mobile Solar Electric Generator

Mobile Solar Electric Generator 230V 1KW

Independant off-grid power supply generator with batteries and inverter 230 volt for home and event.

Solar powered PV isle energy system for generating of 230 V AC voltage 50 Hz.

Ready-to-use generator with transport wheels.

For charging the generator can be placed on a free field or any other place with direct sun radiation. One or several solar modules can be connected for charging.

For generator use, the generator can be moved to the destinated place.

All electrical connectors and circuit brakers are easy accesable.

Specifications:

- Continuous power: 1000W
  1300 W, 30 mins
  2000 W, 5 mins
- Maximum power 3000 W 5 sec
- Storage capacity: 3000 Wh
- Operating duration at fully charged batteries:
  24 hours at 140 watt continuous load,
  10 h at 300 w cont. load,
  3 h at 1000 w cont. load.
  The higher the power consumption, the shorter will be the operating time.
- Inverter: Pure sine wave
- Output voltage AC 230 V
- Output frequency AC : 50 Hz
- Precision of output voltage: 10%
- DC Output Voltage: 12 V / 24 V
- DC Output Current: max. 40 A

Solar Panels have to be ordered extra:

- Modul voltage range: 19 V - 46 V
- Max. modul input current: 20 A
- Batterie capacity: 24V / 120 Ah
- Parallel operation: max. 4 units (to extend power and operation time)
- MAX string power: 12000 W
- External Dimensions (LxWxH):
  64 x 67 x 61cm

Solar ceiling fan

Solar ceiling fan with solar and AC hybrid power supply

- Powered by 3 power sources optional: battery, sunshine or AC power
- Soft starting, stable running and low noise
- LED indicator for power input and battery situation.
- High efficiency, high speed and strong CFM as normal AC ceiling fan
- Saving 80% energy than AC Fan, Only 25W maximum power consumption
- Best for solar systems, especially for the places where lack of electricity power
- Multiple operation modes, operated by solar panel, 12V battery and AC controller.
- Pure copper and electronics controlled brushless DC motor by own design
- Keeping normal temperature during operation
- Long lifetime with more than 10000 hours
- Low consumed power, Very economical for home usage
- Full electric protection for VRLA battery charging and discharging.
- Suitable for house, hotel, camping, remote area and other indoor or outdoor cooling

Specifications:

- Rated Voltage 12VDC
- Starting voltage 9VDC
- Working voltage 9~12VDC
- Working current 2.5A max
- Motor type Brushless DC ceiling fan motor
- Motor wattage (on load) ≤30W
- Speed adjustable Speed stepless controller
- DC battery type 12V VRLA battery
- Battery capacity 12V8AH
- Solar panel input voltage Vmp: 17~19V
- Max power of solar panel 150Wp
- AC power input 110~240V, 50/60Hz
- Stator diameter 110mm
- Temperature rise (on load) < 90° C
- Maximum motor rpm: 280rpm±10rpm
- Blade material Sheet Metal
- Blade size Optional for 1050mm, 1200mm or 1400mm
- Motor box size 250X250X220mm
- Blade box size 620x160x40mm
- Motor weight 3.0kg
- Blade weight 2.2kg
- Noise 28DB

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