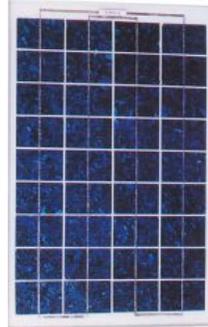




ATLANTS INTERNATIONAL is a group of European companies specializing in designing and exporting innovative solar products , solar systems, solar generators, solar heat collector and solar items along with other innovative and advanced products offering the latest technology.

ATLANTS has already exported products to many countries, such as Germany, Italy, middle east, South east Asia and so on. Our products have got CE , UL , IEC,TUV and ISO9001:2000 certificate, and we have long time experiences on solar product, so we could ensure the good quality of our product.

We have the belief of green energy, cost-effective and best quality & service. Our solar products are highly efficient and low consumption assuring long life-span. They are charged during the day by sun thanks to the solar panel included in each lamp. **Our solar systems are also suitable for home use and we have also models for powering appliances like TV, computers, HI-FI, energy saving fridges, radios, mobile phone, mp3 or other devices.** For rural areas, solar home systems bring safer and brighter light than other systems like kerosene lamps or candles. They not only grant a reliable power source supply but also help to save thousands of Euros per year thank to zero consumption cost. The ability to run small appliances such as radio or television opens up possibilities for both entertainment and education and help to increase comfort and level in areas where electricity is deficient.



They are 100% ECOLOGICAL, reduce pollution and climate changes, saving energy and **ATLANTS is offering long life span of more than 25 years for solar panels, SOMETHING VITAL FOR AMORTIZING THE SYSTEM**

Introduction of Photovoltaic solar module/solar panel

Photovoltaic solar module is a sunlight power generation unit that directly converts solar energy into direct-current electric energy. According to users' different requirements on power and voltage, photovoltaic modules can be individually used or connected either in series (to meet voltage requirement) or in parallel (to meet current requirement) to form power supply generation system to provide higher electric power. ATLANTS photovoltaic modules has such features as high-area-ratio power, long life and high reliability, and within the service life of 25 years with an output power reduction not exceeding 20%.

General features of ATLANTS solar modules

1. The modules are designed in consistent with IEC61215:1993 standards, manufactured with proven materials and tested to ensure electrical performance and service life.
2. For large modules, bypass diode is installed to avoid hot spot effect.
3. Si-Nitride film deposited on the front surface by PECVD acts as antireflection coating and gives a uniform dark blue appearance cells are laminated between a sheet of high transmissivity protective sheet and sheet of TPT material by two sheets of EVA to prevent moisture penetration into the module.
4. Heavy duty anodized aluminum frame provides high wind resistance and convenient mounting access.
5. A waterproof versatile junction box provides flexibility of connection.
6. All of modules are tested by appearance and electronic technical test, the good quality of module can be confirmed.



Typical components of ATLANTS Solar modules

ATLANTS solar modules are composed of **solar cells with high conversion efficiency**. The module adopts reliable welding technology and high-vacuum heating lamination process and is equipped with anticorrosion-treated aluminum alloy frame and watertight junction box. As a result, it takes on a rational structure, and has an ultraviolet aging resistance and high wind resistance

Cells: mono or polycrystalline silicon solar cells, size: 125mmx125mm or 103mmx103mm or 156x156mm. Anti-reflection film is



Silicon Nitride formed with PECVD, color is dark blue which is good for absorbing more sun power. The conversion efficiency is of one highest worldwide.

Frame: Meet the international standard requirements. High quality anodized Aluminum material, the oxidized Aluminum film thickness on the surface reaches 16um. The aluminum frame have 4 pairs of screws for fixing and one screw on the back is for earth connection.

Laminating materials: EVA, long lasting, TPT material is weatherproofed.

Junction box: Junction box is designed for on or off grid application for the international market. The outside of the box is made of high quality PP material with good insulation; the terminal material is copper alloy with silver plated. Each box has two bypass diodes for reducing burning spots. Each box is well sealed and waterproofed.



EVA Encapsulation:

Decades of experience show clear encapsulated insulation enhances solar cell performance and provides proven weathering protection.

Performance and Reliability

ATLANTS Solar products are designed and constructed to provide high performance reliability. We constantly improve our products to ensure product performance and reliability.

Features

High efficiency and reliability for diverse grid and off-grid applications
Superior energy generating kWh/ kWp performance

Tempered Low Iron Glass:

For our crystalline product, tempered low iron glass provides both better impact resistance and better light transmission, allowing the generation of more electricity.

Anti-Reflective Coating:

Increases the efficiency of our modules by reducing the quantity of light that is reflected away from the module.

Reliable Outside Bussing:

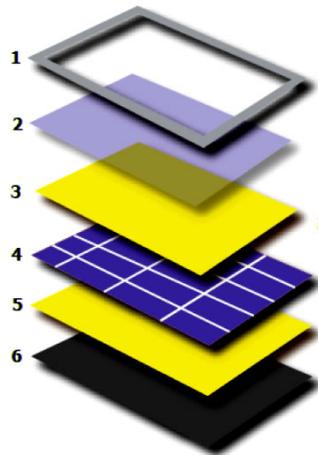
Our proven module design puts bus bars outside frame and cell areas, improving module reliability.

Anodized Aluminum Frames:

Our corrosion resistant frames are constructed to withstand wind speeds in excess of 200Km/h (125 mph) in typical ground mounted applications.



Constructive Characteristics



- 1 Frame**
Of anodized aluminum, pre-drilled for quick and easy assembly.
- 2 Glass**
Tempered, high transmission, low iron anti-reflective and thickness of 3.2mm.
- 3&5 EVA**
(Ethylene and vinyl acetate) Enclosing material.
- 4 Cells**
Polycrystalline cells with serial connection, textured to make best use of solar irradiance.
- 6 Tedlar**
Electrical insulation, protecting of rear part of module.

Common technical parameters of ATLANTS solar modules (Other dimensions, specifications and power could be produced according to customers' requirements)

item no	Rated maximum power (Pmax)	Voltage at Pmax (Vmp)	Current at Pmax (Imp)	Open-circuit Voltage (Voc)	Short-circuit Current (Isc)	Size (mm)	Weight (kg)	efficiency
5D	5w	17.5	0.29	21.5	0.32	266*276*25	1	>16%
10D	10w	17.5	0.57	21.5	0.65	356*301*25	1.4	>16%
15D	15w	17.5	0.86	21.5	0.97	346*426*25	2	>16%
20D	20w	17.5	1.14	21.5	1.29	346*592*25	2.7	>16%
25D	25w	17.5	1.43	21.5	1.61	356*676*25	3	>16%
30D	30w	17.5	1.71	21.5	1.94	518*540*25	5	>16%
35D	35w	17.5	2	21.5	2.26	518*540*25	5	>16%
40D	40w	17.5	2.29	21.5	2.58	670*576*25	5.5	>16%
45D	45w	17.5	2.57	21.5	2.91	670*576*25	5.5	>16%
50D	50w	17.5	2.86	21.5	3.23	458x989x35	6	>16%
55D	55w	17.5	3.14	21.5	3.55	458x989x35	6	>16%
60D	60w	17.5	3.43	21.5	3.88	670*816*35	6.5	>16%
65D	65w	17.5	3.71	21.5	4.2	670*816*35	6.5	>16%
70D	70w	17.5	4	21.5	4.52	670*816*35	7	>16%
75D	75w	17.5	4.29	21.5	4.84	670*990*35	8.5	>16%
80D	80w	17.5	4.57	21.5	5.17	670*990*35	8.5	>16%
85D	85w	17.5	4.86	21.5	5.49	548*1198*35	12	>16%
90D	90w	17.5	5.14	21.5	5.81	548*1198*35	12	>16%
100D	100w	17.5	5.71	21.5	6.46	670*1200*35	12	>16%
100L	100W	17.2V	5.81A	21.5V	6.46A	667*1475*35	12	>16%
110D	110w	17.5	6.86	21.5	7.75	670*1476*35	12	>16%
120D	120w	17.5	6.86	21.5	7.75	670*1476*35	12	>16%
130D	130w	27	5.04	33.5	5.53	1190*795*35	17	>16%
140D	140w	27	5.04	33.5	5.53	1190*795*35	17	>16%
150L	150w	35	4.28	42	4.96	808*1580*40	17	>16%
165L	165w	35	4.72	43	5.19	808*1580*40	17	>16%
180L	180w	35	5.14	43	5.81	808*1580*40	17	>16%

Remark:

- 1) STC(Standard Test Condition): Irradiance 1000W/m2, Module temperature 25Centigrade,AM1.5
- 2) The module is designed in accordance with IEC 61215:1993 standard, manufactured with proven materials and tested to ensure electrical performance and service life.
- 3) Certified UL and IEC 61215 and produced in the ISO 9001:2000

Manufacturer reserves the right to modify etchnical information without previous advise.