



IMW - Gangneung, S.Korea

+

**BEYOND YOUR
EXPECTATIONS
TOP CLASS**

topsun.kr

About Topsun




Together with our partners, we create value by providing solutions that better meet the world's. We are the only one in the world has capability to produce 520Wp module.

- Producing high efficiency module over 20%,
- Expert engineers with over 15 years experience in PV industry


Establishment	October 9th 2008
Location(HQ)	32 Jeonjanonggongdanji-gil, Donghwa-myeon, Jangseong-gun, Jeollanam-do, Korea
Mexico Office	Calle 41 #331 entre 42 y 48 Francisco de montejo CP 97180 Merida, Yucatan, Mexico
Japan Office	213-16, Higashidani, Wadayama-cho Asago-shi, Hyogo, Japan
Employees	180 people
Capital	US\$ 4 Million

Strategy


Our people are key to success.




As a global solar power system supplier, we follow a common global strategy.



This applies to every site, every department and every employee.



It's based on our vision and contains five key programs designed to make us successful.



The focus lies on customer orientation, innovative

Thanks for our customer-oriented solar power solutions we offer real added value and are international solar service and leader in technology.

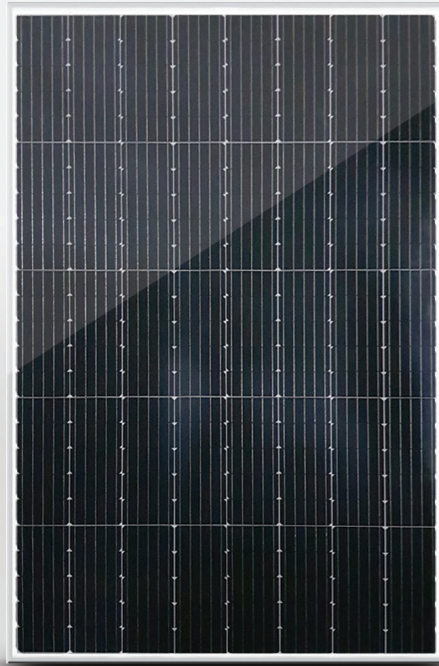
- Provide complete custom made system solutions for primary global solar markets meeting
- Build the international brand through our solar systems, services and outstanding quality.
- With our operational excellence we build the base for a profitable and sustainable company.

Vision



We help our customers realize all the benefits of renewable energy, such as solid financial returns and a positive impact on the environment, through a unique "Commitment to Solar, Commitment to You" approach.

TOP CLASS 500-530



WHAT WE OFFER YOUR BEST PV SUPPLIER



WARRANTY - 10 YEARS
POWER OUTPUT
 90% - 12 YEARS, 80% - 25 YEARS

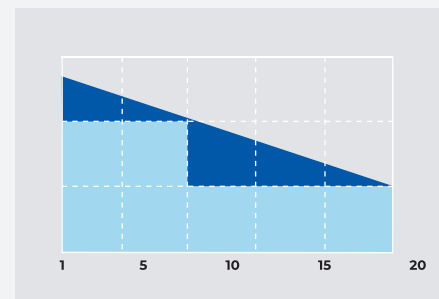
RELIABLE QUALITY



TEMPERATURE COEFFICIENTS

Voltage	-0.308 % / °C
Current	0.032 % / °C
Power	-0.42 % / °C
NOCT Avg	45 °C ±3

SUPERIOR WARRANTY



KEY FEATURES

- Monocrystalline modules designed for commercial & solar farm grid-tied applications
- High Power output & highest conversion efficiency
- Ant-reflective and anti-soiling surface reduces power loss from dirt & dust
- Outstanding performance in low-light irradiance environments

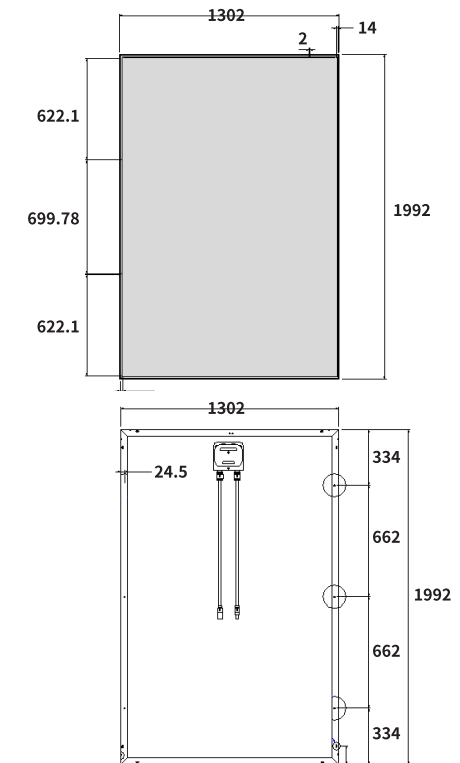
MECHANICAL PARAMETERS

Solar cells	Mono crystalline cells
Front cover	Low iron tempered glass 4.0mm, AR
Back cover	White polyester
Frame	Silver anodized aluminum alloy (40mm)
Output Cables	12 AWG(4mm ²) cables with polarized weatherproof connectors, cable length 1.25m (49.21in.)
Junction box	NEMA IP67 rated; 4 internal bypass diodes
Dimensions	1992(78.58in) * 1302(51.57in) * 36(1.57in)
Approximate Weight	35KG (77.16LBS)

LIMITS

Max. system voltage	DC 1,000 V
Operating module temperature	-40°C TO +85°C
Storm resistance/ Static load	
The standard chunk of Lorem Ips	
Tested to IEC61215 for loads, up to 5400Pa (113psf), hail and wind resistant	

ENGINEERING DRAWINGS

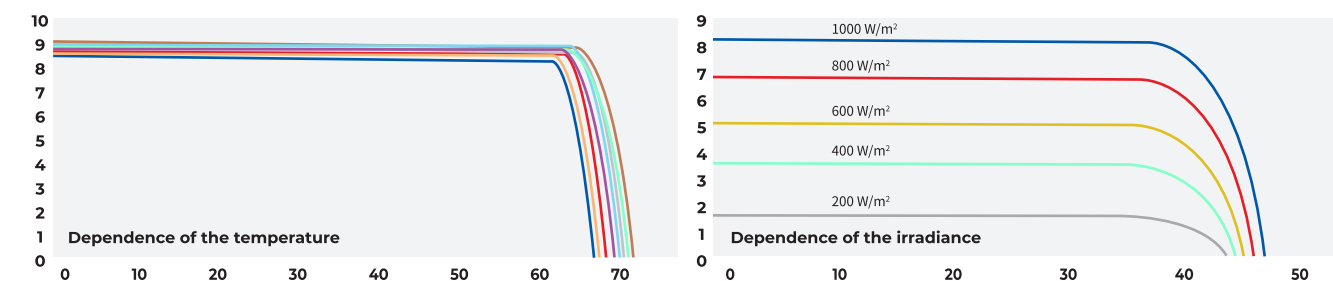


ELECTRICAL PARAMETERS

	500 W	510 W	515 W	520 W	525 W	530 W
Nominal power[Wp] - Pmpp	500	510	515	520	525	530
Voltage at nominal power[V] - Vmpp	53.33	53.4	53.41	53.52	53.69	53.72
Current at nominal power[A] - Impp	9.38	9.56	9.66	9.72	9.78	9.88
Open-circuit voltage[V] - Voc	65.18	65.24	65.27	65.3	65.33	65.36
Short-circuit current[A] - Isc	9.86	9.98	10.04	10.1	10.16	10.22
Module efficiency level[%]	19.28 %	19.66 %	19.85 %	20.05 %	20.24 %	20.44 %

Performance under standard test conditions (STC) : 1000W/m², 25°C, AM 1.5 / Output tolerance[%] 0~+3%

I-V CURVE



ESS

TOPSUN ESS SOLUTIONS

TOPSUN's energy storage system is based on PMS (Power Management System) developed based on accumulated technology through development of power trading and demand management service technology.

To provide user-oriented energy storage management solutions that can be operated with various distributed power and electric car chargers.

TOPSUN ESS is specialized in energy saving based on innovative technology and know-how such as solar ESS.



Protection function of inverter in case of power failure of system powerAutomatic stop function after detecting system frequency and voltage changeAutomatic start after fault detection by self-diagnosis algorithm.



Output power factor at grid connection is more than 0.98 Maintenance control algorithm applied (at load of 2% or more). Automatic stop function after detecting system frequency and voltage change. Automatic start after fault detection by self-diagnosis algorithm.



High-end structure based on durability and appearance (patent registration for structure and cooling control technique). Making it easier to maintain and repair with MPS(Multi Power Stack) structure / Improving power generation efficiency during sunrise and sunset.



Based on advanced technology and various experiences, we are participating in future-oriented industries by spreading efficient eco-friendly energy saving solutions.



SOLAR PV ESS OPERATION MANAGEMENT PERFORMANCE

- ① Ensuring the stability of the inverter
- ② High power factor and high efficiency
- ③ Durability and user convenience
- ④ Specialized in energy saving based on innovative technology & know-how

JW SOLAR PARK #1 - 36,666 KWH
 JW SOLAR PARK #2 - 29,131 KWH
 JW ENERGY - 53,742 KWH
 CHOPO 1 HO - 8,873 KWH
 CHOPO 2 HO - 2,260 KWH

Usil 1ho - 2,762 kWh
 TS Energy 28ho - 8,036 kWh
 TS Energy eib - 8,204 kWh
 Sinjeong Solar - 3,014 kWh
 Sanso 1 ho - 8,036 kWh

Gaehwa Solar Farm - 11,050 kWh
 Bolyeong Solar Farm - 11,050 kWh

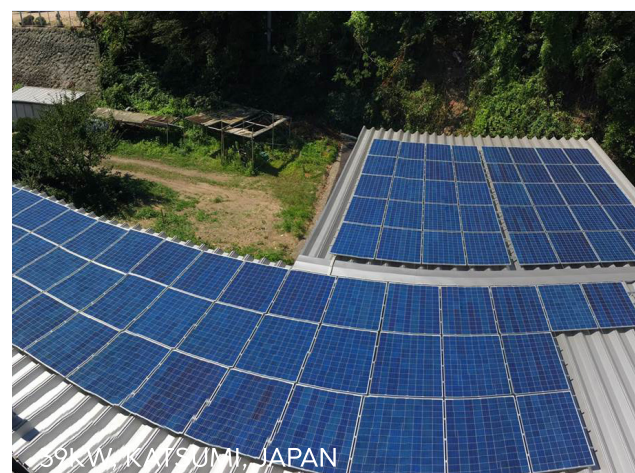
SRB 1 ho - 8,538 kWh
 SRB 2 ho - 2,846 kWh
 Geum-o 1ho - 8,706 kWh
 Geum-o 2ho - 1,758 kWh
 Usil 1ho - 9,041 kWh

Sanso 2 ho - 8,036 kWh
 Hanja 1 ho - 8,036 kWh
 Hanja 2 ho - 3,014 kWh
 Sanso Solar - 7,199 kWh
 Wonho - 12,892 kWh

Installation Case . KOREA



Installation Case . International





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