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PV SOLUTIONS
CATALOGUE

Complete solar energy system ready for installation

CONTENTS

OUR *COMPANY*

Sunpal Power is a global leading solar photovoltaic solution supplier including off grid solar solution, on grid solar solution, hybrid solar solution and solar pumping solution. Founded in 2008, we set up high efficiency solar module factory in Jiangsu province. At 2012,Sunpal Power global solar EPC center was founded at hefei Anhui province, together with numerous partners like Sungrow, Solis and Growatt, we provide comprehensive solar solutions for customers around the world.

Sunpal Power develops and produces solar photovoltaic (PV) modules with best quality on the market, ensuring secure long-term investments for our customers around the world. By utilizing top-tier module components and working alongside the industry's premier providers of balance of systems solutions, Sunpal Power is able to stay ahead of the demand curve and offer innovative, tailored PV technologies to meet customers'varying performance anc aesthetic needs.

Eurthermore, our in house engineering & product development team ensure that every PV system is fully compatible for turnkey installations, which are manufactured under Sunpal Power's quality standards in its assembly facility.

Sunpal Power strives to provide leading solar energy solutions by offering install-ready PV System packages that can drop shipped throughout the world.

16+
Years Delivery Experience.

120+
Partners In ESS Field

500,000+
Global Residential ESS.

80,000m²
Factory Area.

TECHNICAL *CERTIFICATE*

Our PV Solutions and complete range of products, On-grid, Off-grid, Hybrid and Water Pumping PV Kits, include a wide variety of internal components and hardware that comply with global industry standards.

We offer multiple certifications for all components in our product line that follow local standards and codes required for your specific regions or markets. This ensures safe installations and promotes optimal photovoltaic practices.

MSDS

CORPORATE *CULTURE*

About Sunpal

Our Mission

We are committed to responsible solar system solutions for a better future and adhere to the highest ethical standards in our operations and supply chain. We value responsible sourcing, efficient manufacturing and end-of-life recycling to minimize our environmental footprint.

Our Vision

We support our global customers with highly efficient solar products, individual advice on system design and financing options. By investing in the continuous improvement of our employees, we foster a culture of innovation and excellence to create a sustainable future for all.

Our Core Values

Customer-Centric
Respond to our customers beyond expectations and promote customer satisfaction; provide customers with exceptional, efficient and reliable services; build trust and act responsibly towards customers.

People-Oriented
Cultivate a vibrant and collaborative work environment; empower our employees to take ownership; foster a culture of innovation that fuels our collective growth and shared success with our customers.

Pragmatism
Encourage our employees to explore new ideas with practical solutions; keep a long-term vision for the decision-making process; be flexible to adjust our course based on the evolving customer needs and data-driven insights.

SOLAR SYSTEM *OVERVIEW*

Off-Grid Solar System

Achieve energy independence with our off-grid photovoltaic system. It is ideal for remote areas and offers reliable power generation and backup during power outages without reliance on the grid.

Grid-Tied Solar System

Maximize energy savings with our high-efficiency grid-tied solar system that integrates seamlessly with the grid to reduce electricity costs and deliver reliable, clean energy for residential and commercial uses.

Hybrid Solar Power System

Experience the best of both worlds with our hybrid solar system. It combines grid and off-grid capabilities for maximum flexibility and resilience in all conditions.

Battery Energy Storage System

Secure your energy supply with our containerized energy storage solution. It is ideal for large-scale use and is designed for high-capacity storage, scalability, and optimal performance for commercial or industrial needs.

OUR *PRODUCTS*

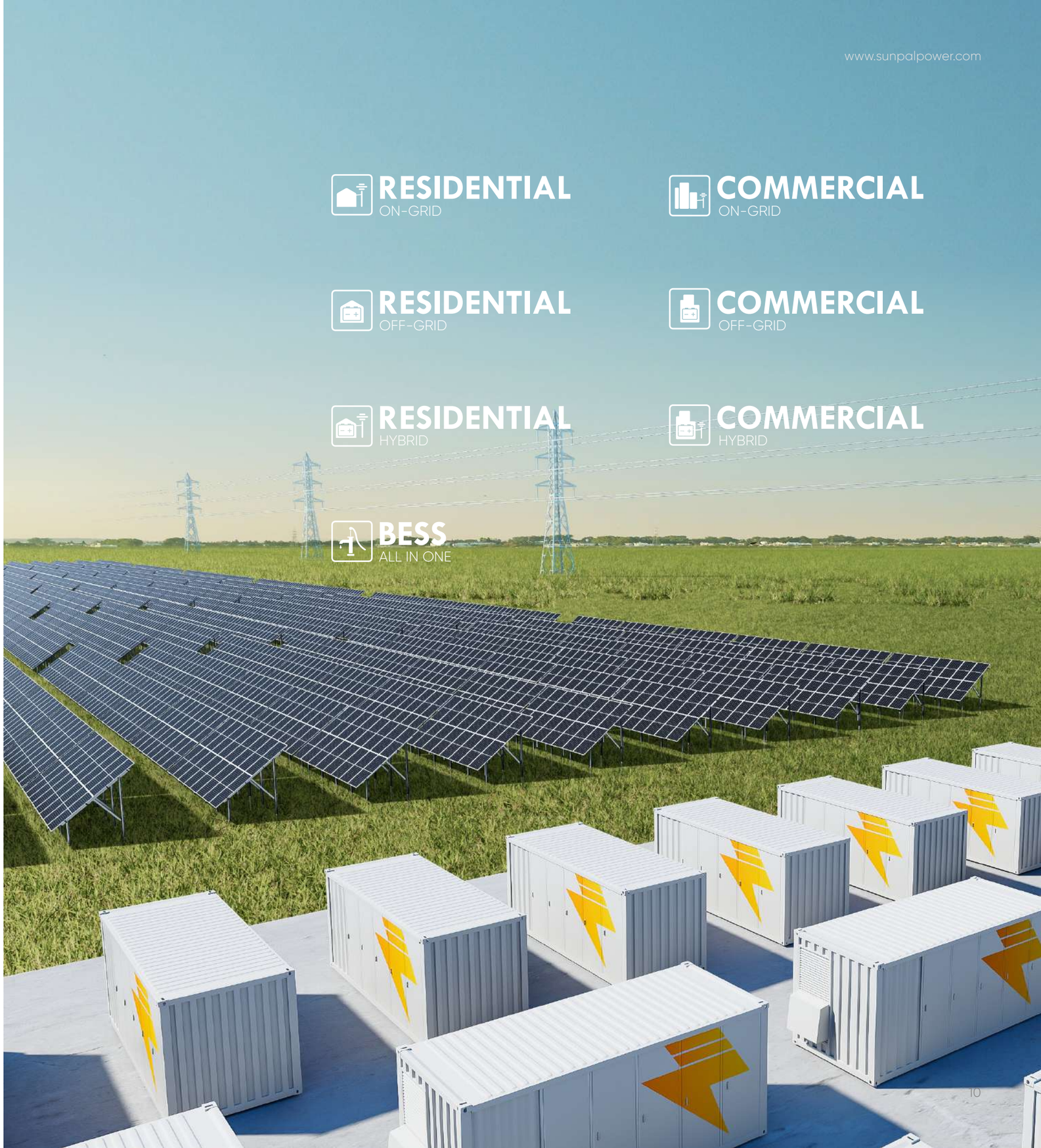
Sunpal Power offers more than 5 different PV Kit product lines with multiple design configurations and a variety of component characteristics, Sunpal Power's ability to provide such flexibility creates a clear difference amongst its competitors and has proven to be an attractive and innovative choice within the Solar Industry.

Our Solar PV Kits are carefully selected and designed for compatibility, then packaged together for a single shipment. Our added value is created by offering pre-engineered solar energy systems (kits) that reduce the time and money reguired in the design, purchasing, and logistics of solar energy systems. Our specialized kit packaging allows our partners to safely and efficiently receive a complete turnkey (ready to install) PV system. Many of our PV Kits are shipped in an 'all in one box' configuration.

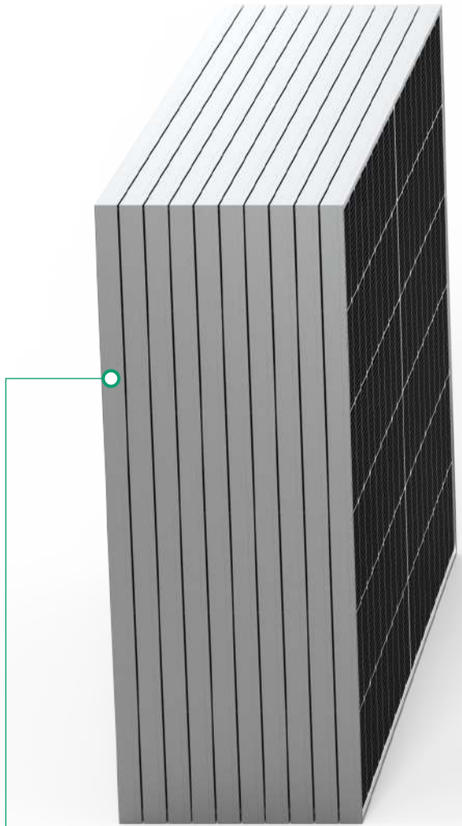
Every Sunpal Power product line is engineered with you in mind. Optimum flexibility in mounting systems, electrical lavouts, and component certifications ensure each and every system delivered meets or exceeds
your expectations.

Our PV systems are tailored for:

· Real Estate Developers and Architecture Firms
· EPC's
· Solar Roofing & HVAC Installation Companies/Contractors
· Distributors, Wholesalers, and Retailers
· Business Owners
· NGO's and Gov't Agencies



SUNPAL SOLAR PV Kit



PV Modules

We at Sunpal Power know that the heartof a PV system comes from the Photovol-taic module. Using state of the art tech-nology, we offer both Monocrystallineand Polycrystalline cell technology ineither white, black, or glass back-sheets.

We are adamant about manufacturingconsistency and module durability andoffer all our partners comprehensive flashtest data of all the modules we ship.

Batteries

The future of energy storage is here. Offering a variety of high efficiency,cost competitive battery technologies including Lead Acid Carbon Gel and Li-Ion (LiFePO4).

We offer our battery systems preconfigured in both Li-Ion and Lead Acid mounted using either rack or cabinet storage configurations.

Inverters

Packed full of innovative technology, Sunpal Power offers a range of variable power invertersin both single and three phase AC.

Code compliant to every market we offer inverters with transformer-less design which means both reduced weight and higher efficiency. Maximum power production is achieved by offering wider input voltages and operating temperature ranges.

Monitoring System

Ideal for residential and commercial PV applications PV system monitoring offers live performance data via the internet of the inverter and battery bank(depending on system type).

Automatic alarms can keep users informed of performance, related issues and help increase production yields. PV array power, current,and voltage can be easily monitored and stored for later energy auditing.

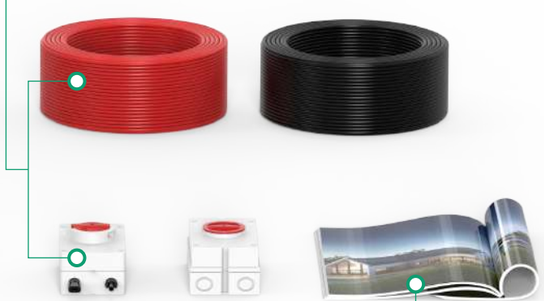
BOS Components

Sunpal Power's Balance of System Components connect and add versatility to all our PV systems.

Attention to detail in our BOS component selection allows for an easier and more seamless installation. Safety matched with functionality allows for easier plug and play installation while maintaining the all in one solution that you come to expect from Sunpal Power.

Our BOS Technologies provide the innovative solutions you' re looking for,enabling your project run smoother,faster and more profitable than ever before.

We optimize the entire balance of system-which consists of
· AC/DC Disconnect
· PV Wiring Harness-MC4 Connection
· Battery harnesses
· Label Pack



Technical Documents

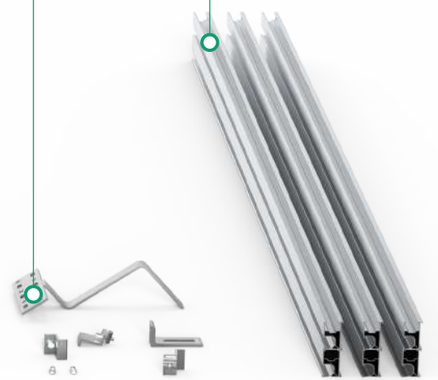
Al Sunpal Power Py Kits contain full instalation documentation, including both electrical, mechanical and a step-by-step guide to the proper installation instructions.

Mounting System

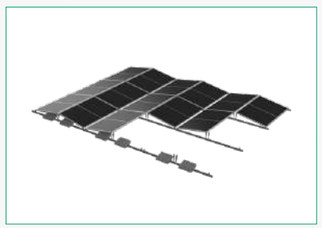
Sunpal Power's mounting systems act as the backbone ofour PV Kits and Custom Solar Energy Solutions.

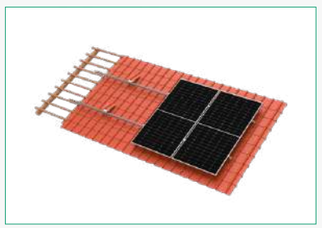
Engineered for durability and designed for simplicity, sunpal Power uses only the highest quality materials in its mounting systems.

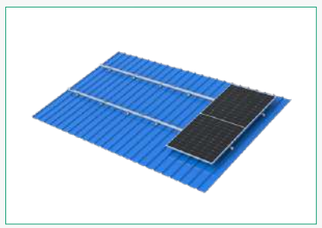
We have developed stronger,more reliable 100% waterproof, code compliant PV mounting systems for rooftops, carports, and ground mounted PV systems.



RESIDENTIAL
OFF-GRID

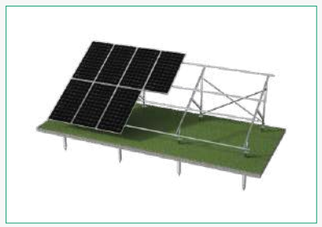


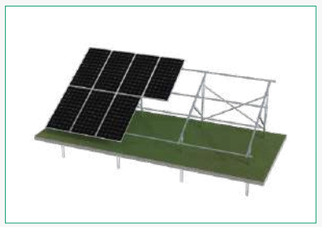




Model	SP-8KW-OFF	SP-10KW-OFF
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	560	
Open Circuit Voltage(Voc/V)	49.84	
Short Circuit Current(Isc/A)	14.14	
Voltage at Maximum Power(Vmp/V)	41.08	
Current at Maximum Power(Imp/A)	13.64	
Module Efficiency(%)	21.67	
Solar Inverter		
Rated Output Power(W)	5500	10000
Rated Output Voltage/Frequency	120/240Vac, 50Hz/60Hz	
No. of MPPT	2	
MPPT Voltage Range	120-450Vdc	
Battery Type	Lead-acid/Li-ion/User defined	
Rated Battery Voltage	40～60Vdc	
Solar Battery		
Nominal Capacity(Ah)	200	
Nominal Voltage(V)	48	
Max.Charging Current(A)	100	
Max.Discharging Current(A)	100	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

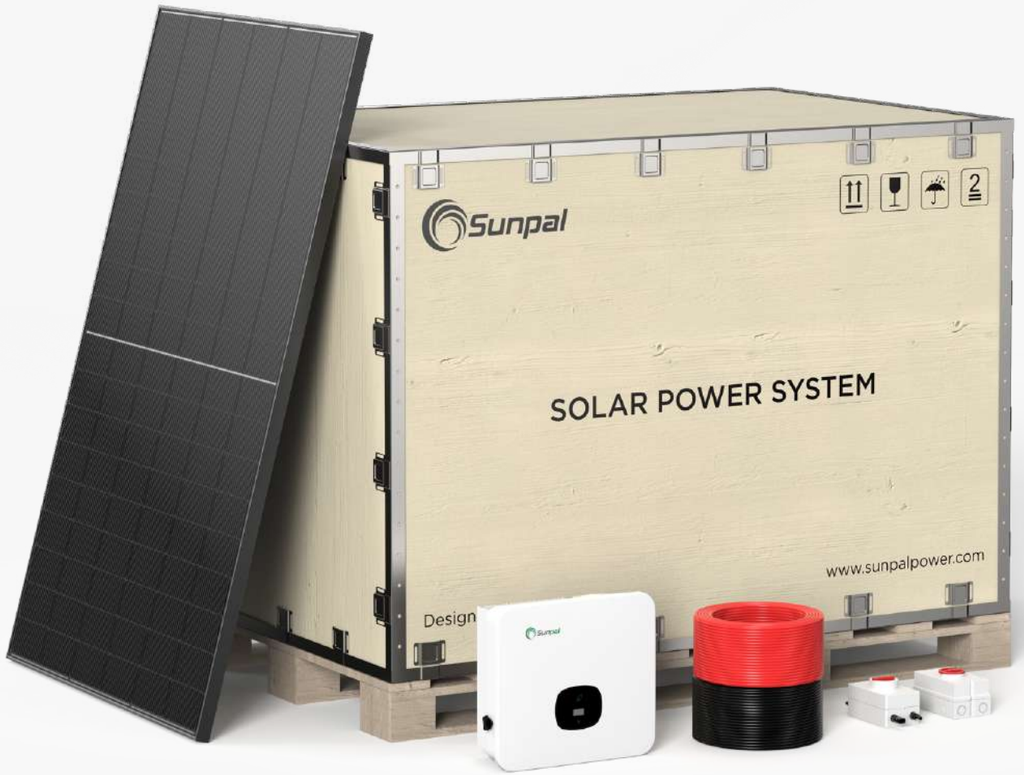
COMMERCIAL
OFF-GRID

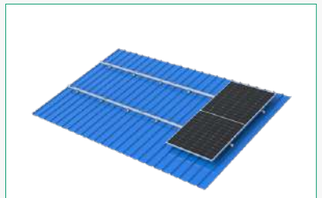




Model	SP-30KW3-OFF	SP-50KW3-OFF
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	560	
Open Circuit Voltage(Voc/V)	49.84	
Short Circuit Current(Isc/A)	14.14	
Voltage at Maximum Power(Vmp/V)	41.08	
Current at Maximum Power(Imp/A)	13.64	
Module Efficiency(%)	21.67	
Solar Inverter		
Rated Output Power(KW)	30	50
Rated Output Voltage/Frequency	127/220Vac, 50Hz/60Hz	
No. of MPPT	1	2
MPPT Voltage Range	230-450Vdc	
Battery Type	Lead-acid/Li-ion/User defined	
Rated Battery Voltage	192/220/240Vdc	
Solar Battery		
Nominal Capacity(Ah)	100	
Nominal Voltage(V)	192	
Max.Charging Current(A)	100	
Max.Discharging Current(A)	100	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

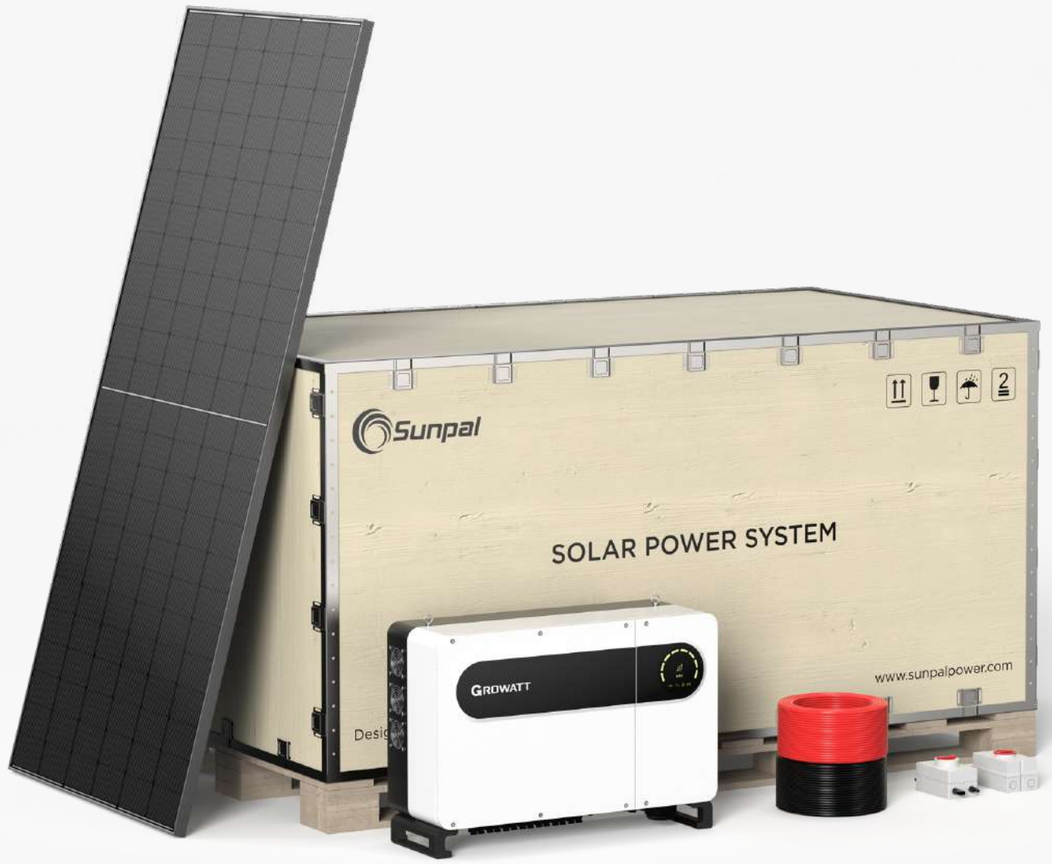
RESIDENTIAL
ON-GRID

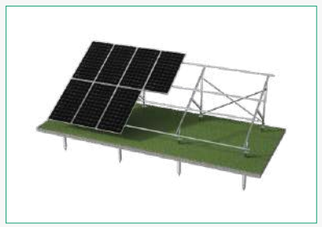


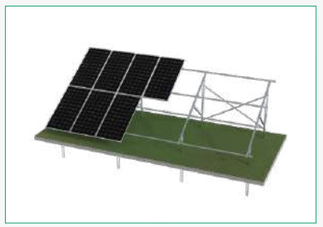


Model	SP-10KW2-ON	SP-20KW3-ON
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	440	
Open Circuit Voltage(Voc/V)	39.44	
Short Circuit Current(Isc/A)	14.27	
Voltage at Maximum Power(Vmp/V)	32.45	
Current at Maximum Power(Imp/A)	13.56	
Module Efficiency(%)	22.53	
Solar Inverter		
Input Data (DC)		
Max. recommended PV power(W)	15000	30000
MPPT voltage range(V)	60~550	200~1000
No. of MPP trackers	3	3
No. of PV strings per MPP tracker	1/1/2	4/4/4
Output data (AC)		
AC nominal power(W)	10000	20000
Nominal AC voltage(range*)	240V split-phase	127/220V three-phase
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)	
General Data		
Dimension W*D*H(mm)	425*387*180	680*508*281
Weight(kg)	18.2	52
Cooling	Natural convection	
Protection Degree	IP65	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

COMMERCIAL
ON-GRID

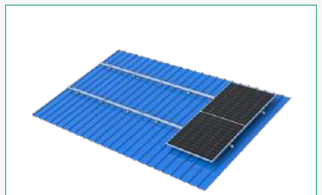






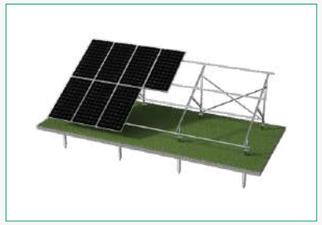
Model	SP-50KW3-ON	SP-100KW3-ON
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	550	
Open Circuit Voltage(Voc/V)	49.64	
Short Circuit Current(Isc/A)	14.00	
Voltage at Maximum Power(Vmp/V)	40.90	
Current at Maximum Power(Imp/A)	13.45	
Module Efficiency(%)	21.29	
Solar Inverter		
Input Data (DC)		
Max. recommended PV power(W)	75000	204000
MPPT voltage range(V)	200~1000	180~1000
No. of MPP trackers	3	10
No. of PV strings per MPP tracker	4/4/4	2
Output data (AC)		
AC nominal power(W)	50000	150000
Nominal AC voltage(range*)	277V/480V three-phase	
AC grid frequency(range*)	50/60 Hz (45-55Hz/55-65 Hz)	
General Data		
Dimension W*D*H(mm)	680*508*281	970*640*345
Weight(kg)	52	84
Cooling	Natural convection	
Protection Degree	IP65	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

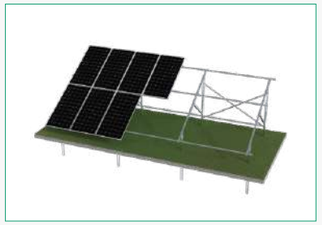
RESIDENTIAL
HYBRID



Model	SP-8KW2-HY	SP-12KW2-HY
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	620	
Open Circuit Voltage(Voc/V)	49.55	
Short Circuit Current(Isc/A)	15.93	
Voltage at Maximum Power(Vmp/V)	41.06	
Current at Maximum Power(Imp/A)	15.10	
Module Efficiency(%)	22.95	
Solar Inverter		
Rated AC Output Active Power(W)	8000	12000
Rated Output Voltage/Frequency	120/240Vac split phase, 50Hz/60Hz	
Battery Input Data		
Battery Type	Lead-acid or Lithium-ion	
Battery Voltage Range(V)	40~60	
PV String Input Data		
No.of MPP Trackers	2	3
No.of Strings per MPP Tracker	2+2	2+2+2
MPPT Voltage Range(V)	150~425	
Solar Battery		
Nominal Capacity(Ah)	200	
Nominal Voltage(V)	48	
Max.Charging Current(A)	100	
Max.Discharging Current(A)	100	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

COMMERCIAL *HYBRID*



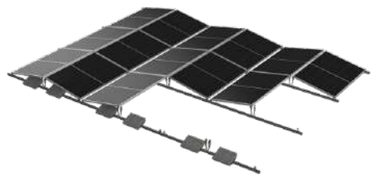


Model	SP-30KW3-HY	SP-50KW3-HY
Solar Panel		
Testing Condition	STC	
Maximum Power(Pmax/W)	580	
Open Circuit Voltage(Voc/V)	51.79	
Short Circuit Current(Isc/A)	14.29	
Voltage at Maximum Power(Vmp/V)	42.71	
Current at Maximum Power(Imp/A)	13.58	
Module Efficiency(%)	22.44	
Solar Inverter		
Rated AC Output Active Power(W)	30000	50000
Rated Output Voltage/Frequency	127/220Vac three phase, 50Hz/60Hz	
Battery Input Data		
Battery Type	Lithium-ion	
Battery Voltage Range(V)	160~800	
PV String Input Data		
No.of MPP Trackers	3	4
No.of Strings per MPP Tracker	2+2+2	2+2+2+2
MPPT Voltage Range(V)	150~850	
Solar Battery		
Nominal Capacity(Ah)	280	
Nominal Voltage(V)	460.8	716.8
Max.Charging Current(A)	140	
Max.Discharging Current(A)	140	
Accessory List		
PV Mounting Bracket	Customized	
PV Cable	Customized	
Ground Wire	Customized	
MC4 Connector	Customized	
DC Switch	Customized	
AC Switch	Customized	

BATTERY ENERGY
STORAGE SYSTEM

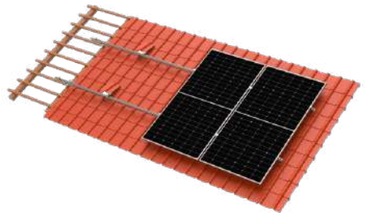
Model	SP-500KW3-PCS	SP-1MW3-PCS
Solar Inverter		
AC Power	500KW	1MW
Voltage Range(V)	500~850	
Max. Current(A)	1128	
AC(On-grid)		
Rated Voltage(V)	480	
Rated Frequency(Hz)	50/60	
THDI	<3%	
Power Factor	1lagging-1leading（Settable）	
AC Connection	3W+N+PE	
General Data		
Max. Efficiency	97.5%	
Ingress Protection	IP21	
Noise Emission(dB)	<70	
Operating Temperature(℃)	-30~55	
Cooling	Forced air	
Dimension W*D*H(mm)	1600*1050*2050	
Weight	2665	
On/Off Grid Switching	Automatic	
Solar Battery		
Nominal Capacity(Ah)	280	
Nominal Voltage(V)	716.8	
Max.Charging Current(A)	140	
Max.Discharging Current(A)	140	

SOLAR MOUNTING *SYSTEM*



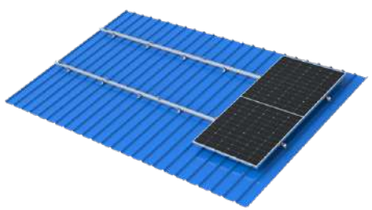
Flat Roof Solar Mount

Flat Roof Solar Mount meet different tilt angles installation. It is applicable to the roof areas with medium wind load. Quick installation and stable structure are assured by the modular patented design.



Tile Roof Solar Mount

Tile Roof Solar Mount can achieve stable and strong connection between the roof support structure and solar modules with modular patented design. Pre-as-sembled kits save the installation time and cost onsite.

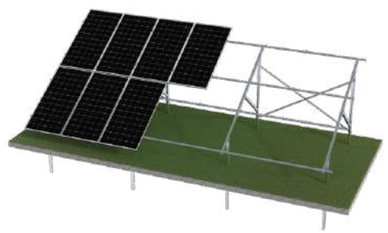


Metal Roof Solar Mount

Metal Roof Solar Mount can realize the perfect connection between roof support and roof to meet customer installation requirement. Professional solution and structure design can save your installation time and cost.

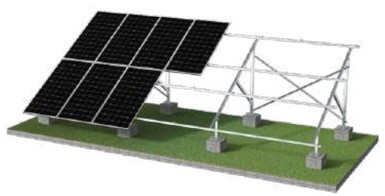
Screw Pile Solar Mount

Screw Pile Solar Mount is a highly pre-assembled ground mounting system, with strong wind load and snow load resistance.The system can achieve minor adjustment onsite with special design of anchor plate to adapt to different sites.



U Pile Solar Mount

U Pile Solar Mount is a highly pre-assembled ground mounting system,which can be applied to the installation of large commercial and utility scale solar PV projects. Made of high quality aluminum material, it has excellent corrosion resistance performance.



Concrete Foundation Solar Mount

Concrete Foundation Solar Mount is the most advanced ground mount fixed tilt systems. They are designed under the concept of "being easy & compatible". Its reliability and cost-effctive ness have been proven in world wide acclaimed projects.

AUXILIARY *MATERIAL*

Different system types will use the following different installation auxiliary materials. For specific product models and quantities, please consult our professional sales staff.

Solar PV Tools

PV Combiner Box

Single Core PV Cable

AC Isolator Switch

MC4 Connector

DC Isolator Switch

CUSTOM SOLAR SOLUTION

As a leading solar developer and engineering services firm, we are uniquely placed to help you lower yourenergy bills and help you make the transition to clean and sustainable solar energy with our Commercial &Residential solutions.

ONE STOP SOLUTION

Sunpal Power help you get clean energy

1

Early Research

Project location,installation area,transformer capacity,capital and rough size.

2

Engineering Construction

Organizing and arrangement,construction, equipment installation and commissioning.

3

Project Proposals

System configuration,instaflation solution. budgetary estimates,financial analysis.

4

Engineering Design

Solar components selection,whole system design, monitoringand communication system design.