



SOLAR ENERGY SOLUTIONS



OUR MISSION



EV Energy Solutions has recently broadened its scope, embracing a bigger mission and a stronger commitment to support the transition to a sustainable future.

At EV Energy Solutions, our mission is to drive the transition to a sustainable future by providing innovative electric vehicle energy solutions. We are committed to empowering communities and businesses with clean, efficient energy technologies that promote environmental stewardship and enhance mobility.



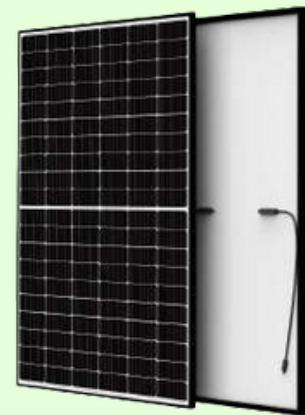


Vision:

Our vision is to be one of the global contributors in sustainable energy innovation, transforming the way the world powers electric mobility. We envision a future where clean energy is accessible to all, fostering a seamless integration of electric vehicles into everyday life. By championing renewable energy and advanced technologies, we aim to create vibrant, eco-friendly communities that thrive in harmony with the environment.



SOLAR PV KIT



PV Modules

Monocrystalline, Polycrystalline and N-Type(top- corn) White or Black panels
Half cut / Square mono / 12BB / MWT
IEC, TUV, CE, ISO and etc



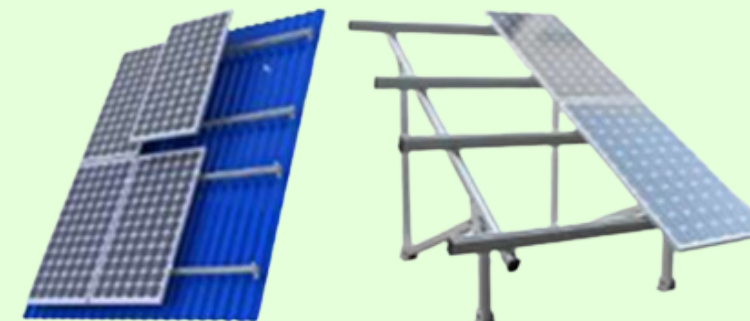
BOS Components

AC / DC disconnects, wiring harnesses, MC4 connectors, wire, safety label packs, MC4 connector tools
Grounding hardware, PV tools



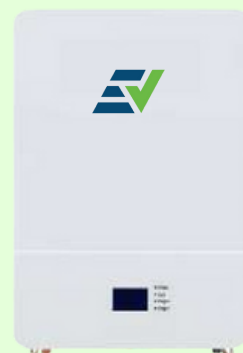
Inverters

Monitoring options for better performance collection and project oversight. Dual MPPT technology provides numerous layout On-Grid, Off-Grid, Hybrid



Mounting System

Pitched roof, flat roof, pole mount, ground mount A variety of different roof connectors and zero penetration ballast steel. Aluminum or galvanized steel



Batteries

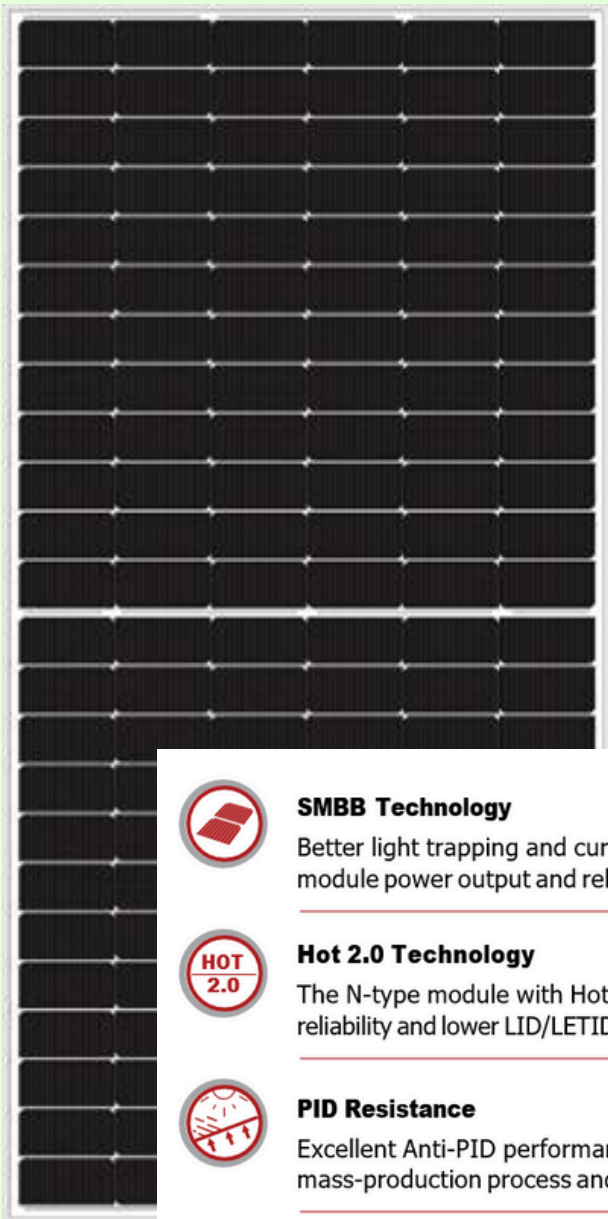
2V, 12V AGM and GEL and OPzV Battery;
12V, 48V Lithium Battery
Modular design allows for future energy storage add-ons



Monitoring System

Free online monitoring via phone App or desktop WI-FI or GPRS technology data logging functionality, download and view generation statistics offline.

TECHNICAL
SPECIFICATIONS





SMBB Technology
Better light trapping and current collection to improve module power output and reliability.



Hot 2.0 Technology
The N-type module with Hot 2.0 technology has better reliability and lower LID/LETID.



PID Resistance
Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Enhanced Mechanical Load
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



Durability Against Extreme Environmental Conditions
High salt mist and ammonia resistance.

144HC SERIES

Framed 144 Layout Mono Module Half-Cell: 570-600W

ELECTRICAL DATA (STC)

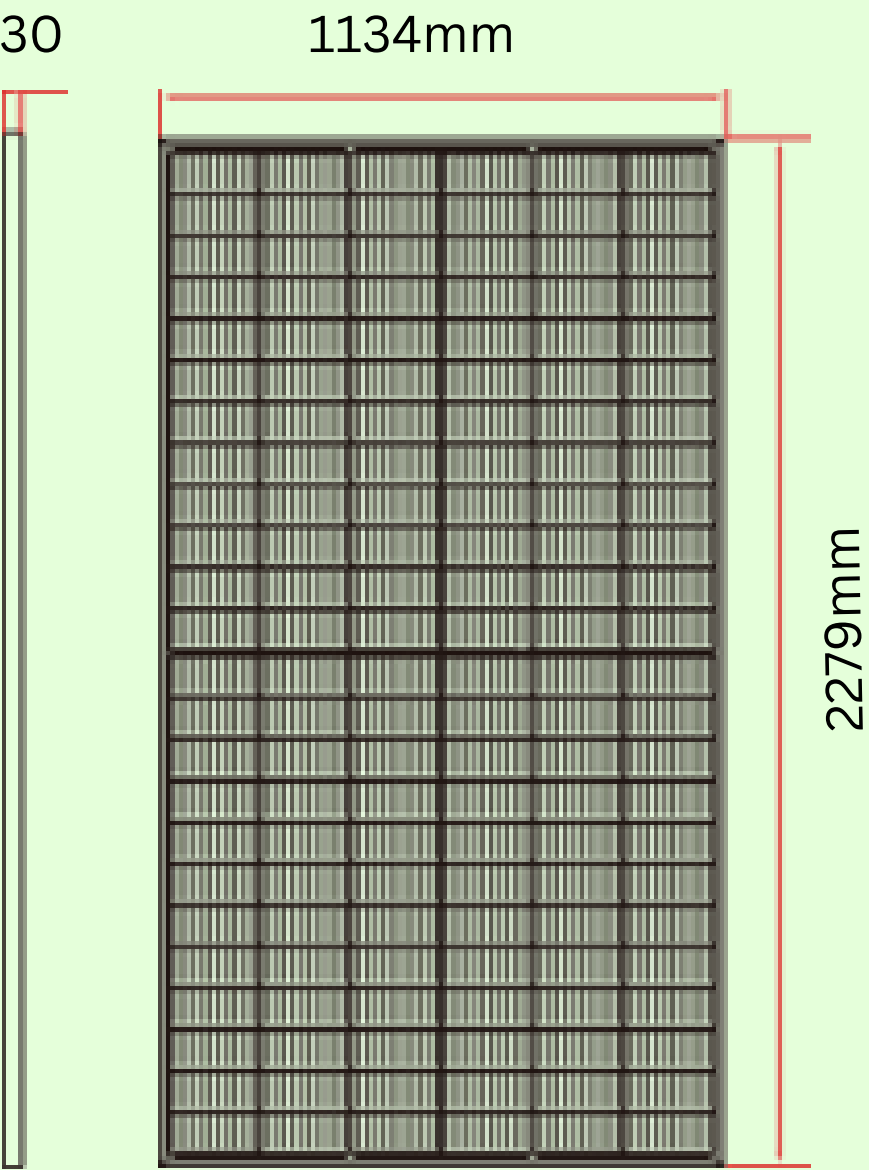
Peak Power Watts-PMAX(Wp)*	570	575	580	585	590	595	600
Power Output Tolerance-PMAX(W)	0~+5						
Maximum Power Voltage-VMPP(V)	42.07	42.22	42.37	42.52	42.67	42.82	42.97
Maximum Power Current-IMPP(A)	13.55	13.62	13.69	13.76	13.83	13.90	13.97
Open Circuit Voltage-Voc(V)	50.74	50.88	51.02	51.16	51.30	51.44	51.58
Short Circuit Current-Isc(A)	14.31	14.39	14.47	14.55	14.63	14.71	14.79
Module Efficiency (%)	22.07	22.26	22.45	22.65	22.84	23.03	23.23

STC:: Irradiance 1000W/m2 , cell temperature 20°C, Air Mass AM1.5

*Measuring tolerance: ±3%.

TECHNICAL
SPECIFICATIONS

144HC SERIES

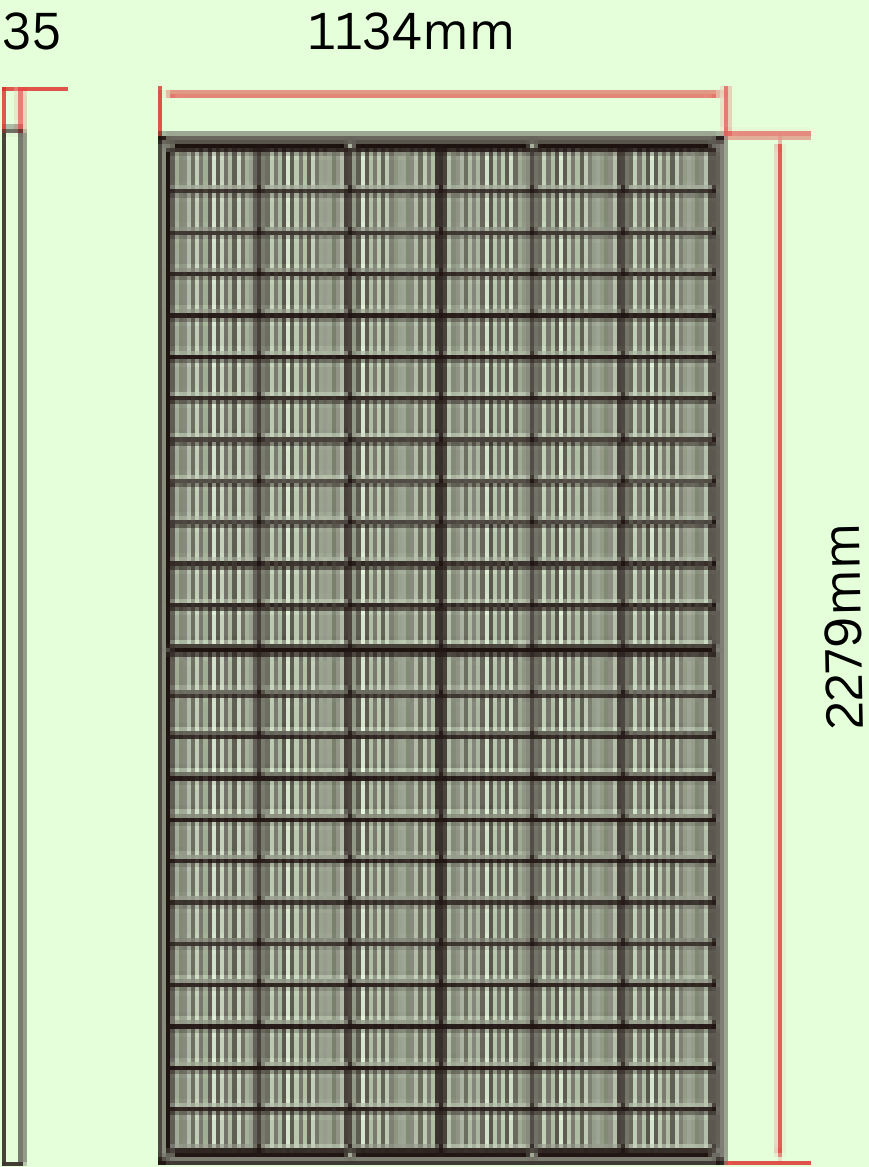


ELECTRICAL PARAMETERS AT NOCT

Maximum Power-PMAX(Wp)	428	432	436	440	444	448	452
Maximum Power Voltage-VMPP(V)	39.45	39.57	39.69	39.81	39.93	40.05	40.17
Maximum Power Current-IMPP(A)	10.84	10.91	10.98	11.05	11.12	11.19	11.26
Open Circuit Voltage-Voc(V)	48.22	48.35	48.48	48.60	48.74	48.87	49.0
Short Circuit Current-Isc(A)	11.55	11.62	11.68	11.75	11.81	11.88	11.94

NOCT: Irradiance 800W/m2, Ambient temperature 20°C, Wind Speed 1 m/s

TECHNICAL
SPECIFICATIONS



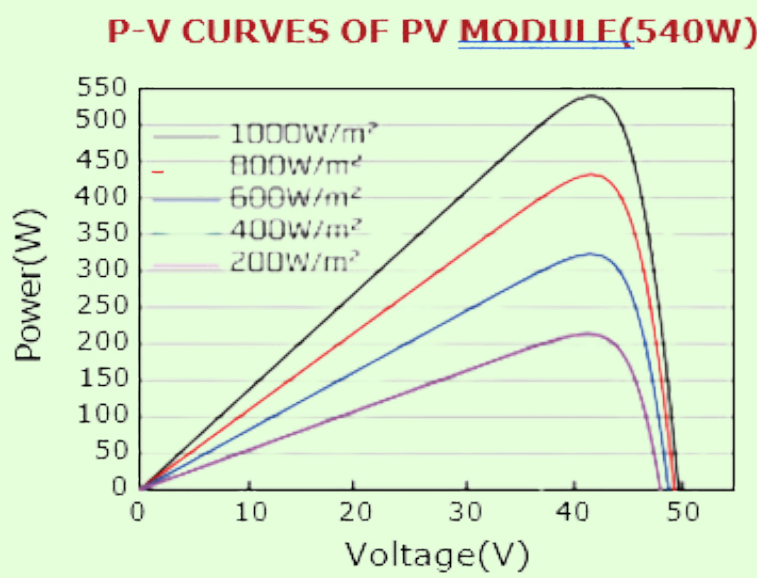
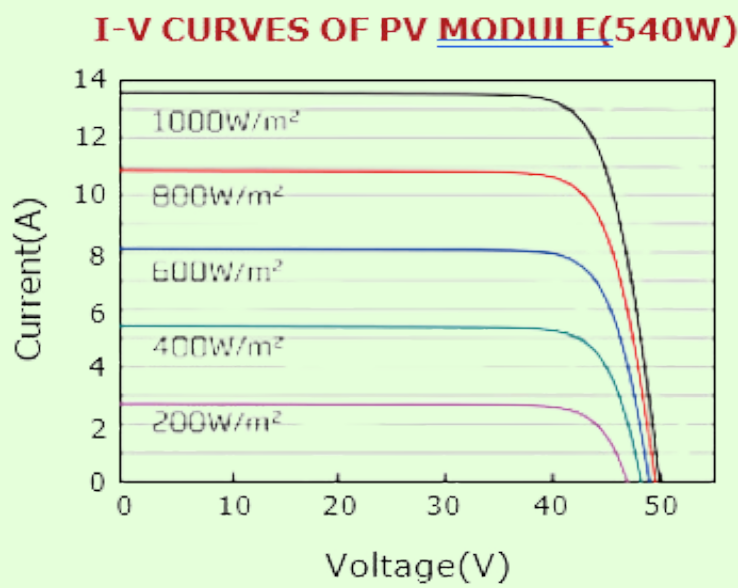
MECHANICAL DATA

144HC SERIES

Solar Cells	Monocrystalline, 182 mm
Cell Orientation	144 cells (6x24)
Module Dimensions	2278*1134*30mm
Weight	28 kgs
Glass	3.2mm , anti-reflection coating, high transmission, low iron, tampered glass
Backsheet	White
Frame	Silver, Anodized Aluminium Alloy
J-Box	IP68 rated
Output Cables	Photovoltaic technology cable 4.0mm2 Portrait: N 300mm/P 300mm Landscape: N 1400mm/P 1400mm(Opt)

TECHNICAL SPECIFICATIONS

144HC SERIES



TEMPERATURE RATINGS

NMOT (Nominal ModuleOperating Temperature)	45±2℃
Temperature Coefficient of Pmax	-0.29%/℃
Temperature Coefficient of VOC	-0.25%/℃
Temperature Coefficient of ISC	0.045%/℃

MAXIMUM RATINGS

Operational Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A

WARRANTY

12 years Product Warranty
30 years Linear Power Warranty

PACKAGING CONFIGURATION

Modules per pallet: 36 pieces
Modules per 40HQ container: 720pieces

TECHNICAL SPECIFICATIONS



- Convenient**

Quick installation, standard of 19-inch embedded designed module is comfortable for installation and maintenance.
- Safe and Reliable**

Cathode material is made from LiFePO4 with safety performance and Long cycle Life, The module has Less self-discharge, up to 6 months without charging it on shelf, no memory effect, excellent performance of shallow charge and discharge.
- Intelligent BMS**

It has protection functions including over-discharge, over-charge, over-current and over-high or Low temperature. The system can automatically manage charge and discharge state and balance current and voltage of each cell.
- Eco-Friendly**

The whole module is non-toxic, non-polluting and environmentally friendly.
- Flexible Configuration**

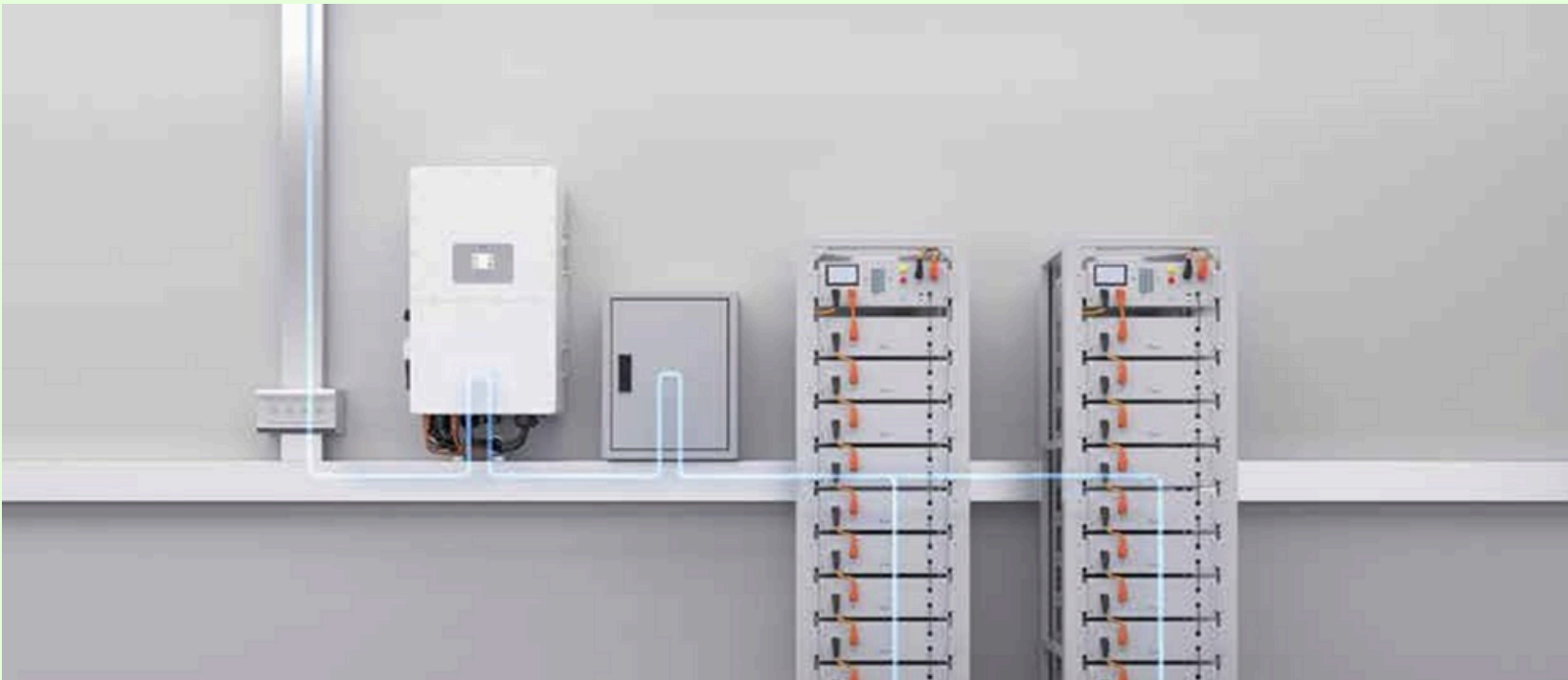
Multiple battery modules can be in parallel for expanding capacity and power. Support USB upgrade, wifi upgrade (optional), remote upgrade (Compatible with Deye inverter).
- Wide Temperature**

Working temperature range is from -20°C to 55°C, with excellent discharge performance and cycle Life.

RACK MOUNT BATTERY SERIES

MODEL		TH-R-HV114
Cell chemistry		LiFePO4
Module energy(kWh)		14.33
Module nominal voltage(V)		51.2
Module capacity(Ah)		280
Cell model/ Configuration		3.2V280Ah (EVE) /128S1P
System nominal voltage(V)		409.6
System operating voltage(V)		345.6~460.8
System energy(kWh)		114.6
Charge/ Discharge Current(A)	Recommend	140
	Max	140
Working temperature		Charge: 0°C~55°C ; Discharge: -20°C~55°C
Communication port		CAN2.0/RS485
Humidity		5~85%RH Humidity
Altitude		≤2000 m
IP rating of enclosure		IP20
Dimension(W*D*H,mm)		550*780*1450mm
Weight approximate(kg)		1110Kg
Installation location		Bracket installation
Storage temperature(°C)		0°C~35°C
Recommend depth of discharge		90%
Cycle life		25±2°C, 0.5C/0.5C, EOL70%≥6000

TECHNICAL SPECIFICATIONS

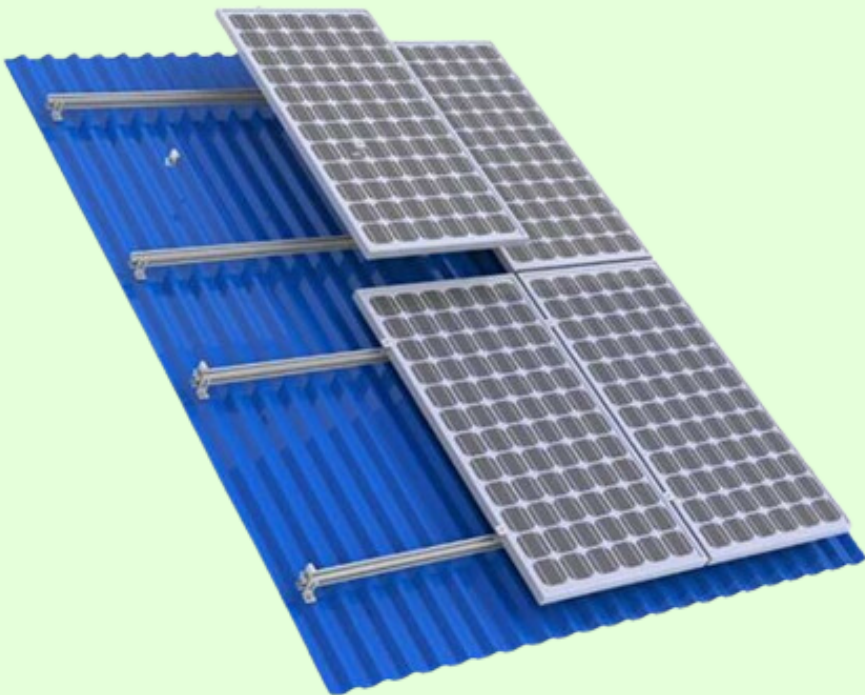


- 100 100% unbalanced output, each phase
- AC couple to retrofit existing solar system
- 10 Max. 10 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel
- 100 Max. charging/discharging current of 100A
- H High voltage battery, higher efficiency
- 6 6 time periods for battery charging/discharging
- Support storing energy from diesel generator

HYBRID INVERTER

Model	SUN-29.9K	SUN-30K	SUN-35K	SUN-40K- EU-BM4	SUN-50K- EU-BM4
Battery Input Data					
Battery Type	Lithium-ion				
Battery Voltage Range (V)	160-800				
Max. Charging Current (A)	50+50				
Max. Discharging Current (A)	50+50				
Charging Strategy for Li-ion Battery	Self-adaption to BMS				
Number of Battery Input	2				
PV String Input Data					
Max. DC Input Power (W)	38870	39000	45500	52000	65000
Max. DC Input Voltage (V)			1000		
Start-up Voltage (V)			180		
MPPT Voltage Range (V)			150-850		
Rated DC Input Voltage (V)			600		
Max. Operating PV Input Current (A)	36+36+36			36+36+36+36	
Max. Input Short-Circuit Current (A)	55+55+55			55+55+55+55	
No. of MPP Trackers/ No. of Strings per MPP Tracker	3/2+2+2			4/2+2+2+2	
AC Input/Output Data					
Rated AC Input/Output Active Power (W)	29900	30000	35000	40000	50000
Max. AC Input/Output Apparent Power (VA)	29900	33000	38500	44000	55000
Rated AC Input/Output Current (A)	45.4/43.4	45.5/43.5	53.1/50.8	60.7/58	75.8/72.5
Max. AC Input/Output Current (A)	45.4/43.4	50/47.9	58.4/55.8	66.7/63.8	83.4/79.8
Max. Three-phase Unbalanced Output Current (A)	60	60	60	70	83.3
Max. Continuous AC Passthrough (grid to load) (A)	200				
Peak Power (off-grid) (W)	1.5 times of rated power, 10s				
Power Factor Adjustment Range	0.8 leading to 0.8 lagging				
Rated Input/Output Voltage/Range (V)	220/380V, 230/400V 0.85Un-1.1Un				
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65				
Grid Connection Form	3L+N+PE				
Total Current Harmonic Distortion THDi	<3% (of nominal power)				
DC Injection Current	<0.5% In				
Efficiency					
Max. Efficiency	97.60%				
Euro Efficiency	97.00%				
MPPT Efficiency	>99%				
Equipment Protection					
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection DC Terminal Insulation Impedance Monitoring, DC Component Monitoring, Ground Fault Current Monitoring Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch Overvoltage Load Drop Protection, Residual Current (RCD) Detection, Surge protection level AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection DC Terminal Insulation Impedance Monitoring, DC Component Monitoring, Ground Fault Current Monitoring Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch Overvoltage Load Drop Protection, Residual Current (RCD) Detection, Surge protection level				
Surge Protection Level	TYPE II(DC), TYPE II(AC)				
Interface					
Communication Interface	WIFI, RS485, CAN				
General Data					
Operating Temperature Range (°C)	-40 to +60°C, >45°C Derating				
Permissible Ambient Humidity	0-100%				
Permissible Altitude	2000m				
Noise (dB)	≤65				
Ingress Protection(IP) Rating	IP 65				
Inverter Topology	Non-Isolated				
Over Voltage Category	OVC II(DC), OVC III(AC)				
Cabinet Size (WxHxD mm)	527×894×294 (Excluding Connectors and Brackets)				
Weight (kg)	80				
Type of Cooling	Intelligent Air Cooling				
Warranty	5 Years/10 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy				
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105				
Safety / EMC Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				

TECHNICAL SPECIFICATIONS



With variety of different tin roof brackets, tin roof mounting system can meet trapezoid/corrugated metal roof and standing seam roof demand with or without penetrating on the roof.

SPECIFICATION:

Wind Speed:< 60m/s Snow load:1.4 KN/m2 Standard:AS1170.2
Degree: Parallel to the roof
Arrangement :Vertical or Horizontal
Warranty:10 years

INSTALLATION:

- 1. Fix L-feet by tapping screw, ensure waterproof by rubber plate.
- 2. Installing rail by side of L-feet, L-feet’s hole can adjust the height of rail. 3.Two rails supported each panel , fix panels by mid clamp and end clamp kit.

METAL ROOF SOLAR MOUNTING

Metal roof mounting accessories :



Mounting rail
Rail , Extruded Aluminum Profile , A16005-T52560mm , 3405 and 4200mm are the standard size



L-feet kit
A16005-T5
Function:
Fix the rail to the beam



End clamp - Mid clamp kit
A16005-T5 & Stainless Steel A2-70
Function:
Fix solar panel at the end

Trapezoid roof bracket (Normal type) :

	Part No.	YK-PM02	
	Material	Stainless steel + Tapping screw + Socket bolt kit	
	Finish	N/A	
	Remark	By short Tapping screw to fix bracket	

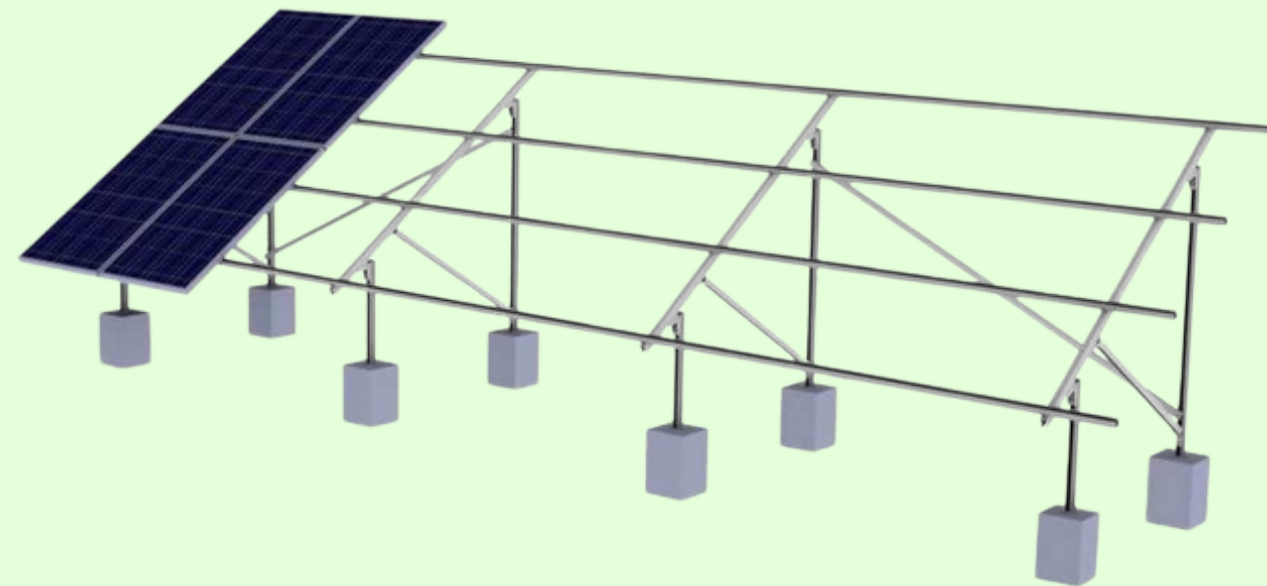
Corrugated metal roof bracket(Normal type) :

	Part No.	YK-PM03	
	Material	Stainless steel + hanger bolt + Socket bolt kit	
	Finish	N/A	
	Remark	Drilled into purlin of metal roof	

Seam Clamp (Normal type) :

	Part No.	YK-PM04	
	Material	Aluminum alloy + Socket bolt kit	
	Finish	N/A	
	Remark	Seam clamp	

TECHNICAL SPECIFICATIONS



The Ground Mount is applicable to install the solar panel on a open field . Not only for residential , but also widely used for commercial project. Strong and powerful structure, nice appearance and lowest cost make this system quite popular all over the world .

SPECIFICATION

Wind Speed: <42m/s
Snow load: 1.4 KN/m²
Standard: AS1170.2
Degree: 10°-70°
Arrangement: Vertical
Warranty: 10 years

INSTALLATION:

1. Install posts first , and then install main beam and diagonal brace on 2 columns.
2. Install mounting rail upon main beam.
3. Install PV panels by mid clamp and end clamps.

GROUND SOLAR MOUNTING SYSTEM FOR TWO ROWS

Main parts are shown below:



Mounting rail, Main beam
Diagonal brace
back support



Splice



Front/Rear Post



Connection



End clamp
Mid clamp kit

Actual Image



BENEFITS OF GREEN ENERGY



Environmental Impact:

- Reduction in greenhouse gas emissions
- Preservation of natural resources



Economic Advantages:

- Job creation in the renewable energy sector
- Long-term cost savings for consumers and businesses



Health Benefits:

- Improved air quality
- Reduction in health issues related to fossil fuel pollution



THANK YOU

Thank you for your interest in EV
Energy Solutions and our
commitment to sustainable
energy.

