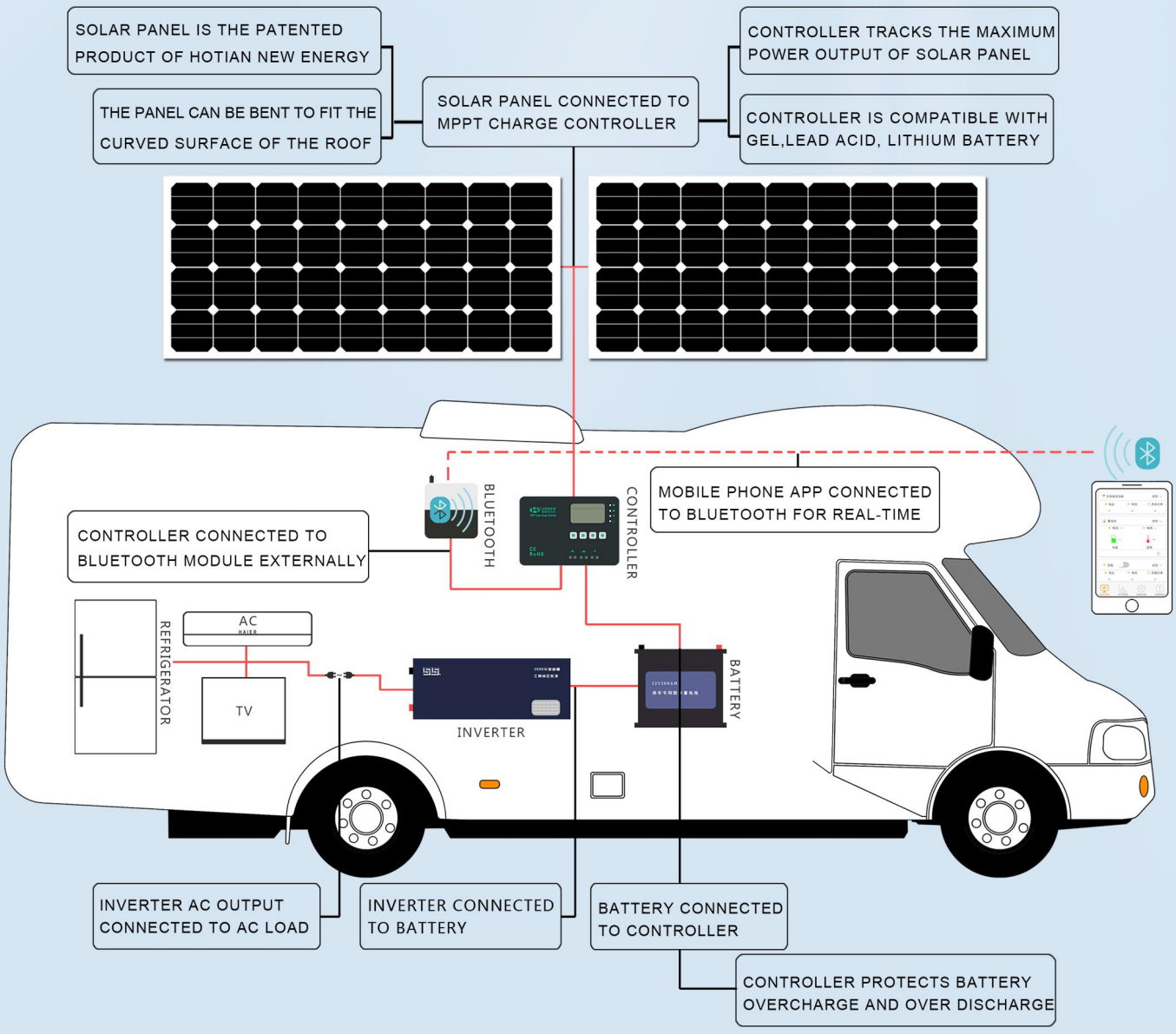
PV VEHICLE-MOUNTED SYSTEMS

SAFE STABLE EFFICIENT

SOLVES THE OUTDOOR ELECTRICITY DEMAND OF RVS



GO SOLARV

目录

PV VEHICLE-MOUNTED SYSTEMS

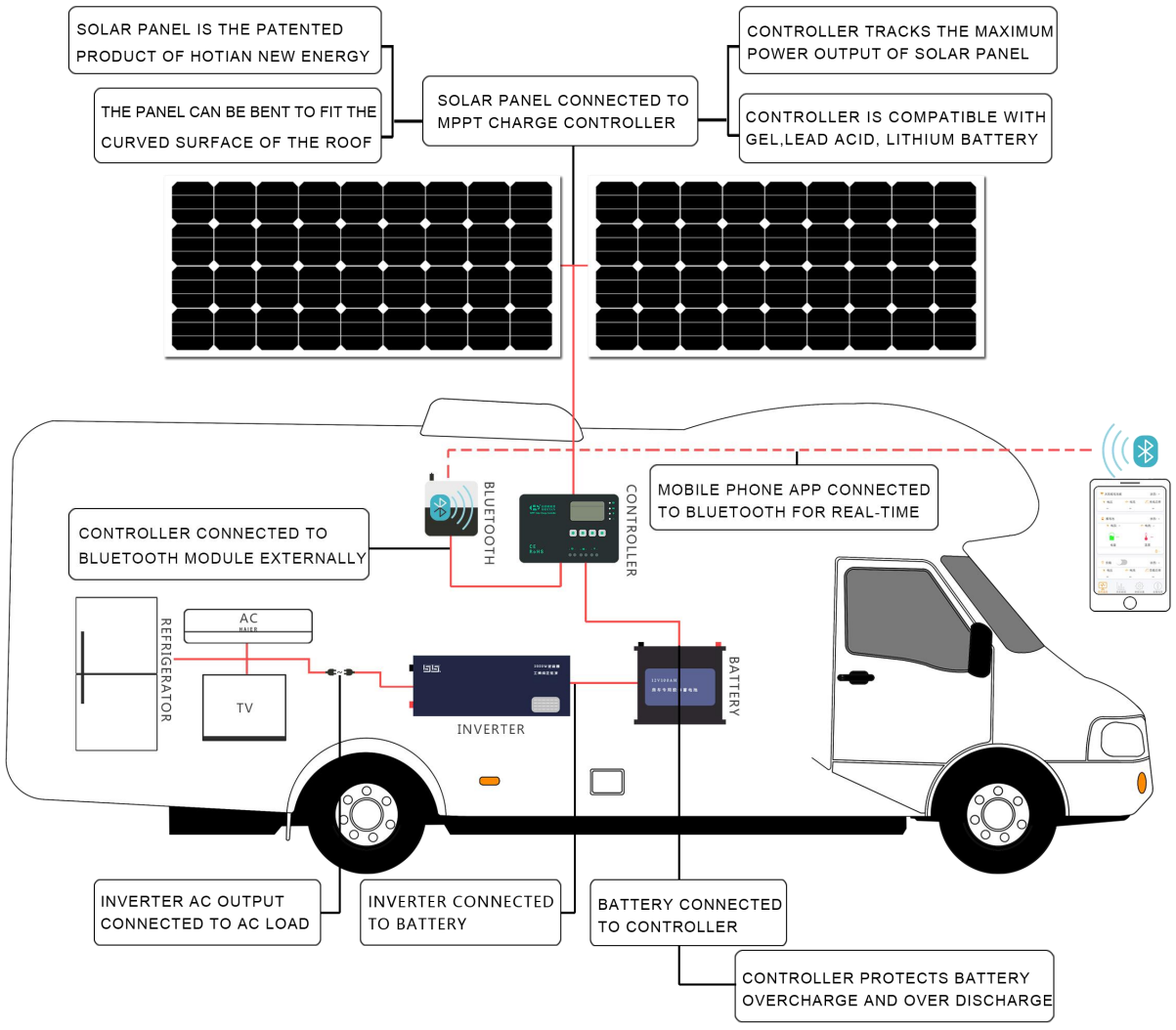
This system uses solar panels installed on the vehicle body (such as the roof) to charge the vehicle's batteries. It provides power for:

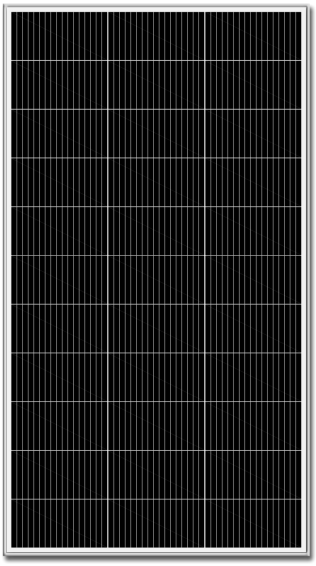
- Starting battery to prevent no-start issues due to low charge.
- Storage battery for appliances like air conditioners and refrigerators when parked.
- On-board devices like air conditioning to reduce fuel consumption.
- New energy vehicle batteries to extend driving range.

Suitable for vehicles such as vans and campers.

The system requires customized configuration with flexible parameters based on specific application requirements.

SCHEMATIC DIAGRAM





KING KONG PRO SERIES SOLAR PANELS

Grade A high-efficiency monocrystalline silicon laminated solar panel

Patent Number : ZL 2024 2 0137117.3



The King Kong PRO solar panels adopts an original distributed diode technology. Under the same shading conditions, it has the advantage of higher output power compared to common modules. It is encapsulated with 3.2mm ultra-white tempered glass and protected by an aluminium alloy frame. There are screw holes for installation on the frame, which can be used for planar installation.

PARAMETER

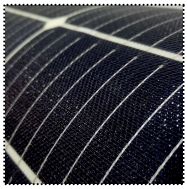
STC : Irradiance 1000 W/m², module temperature 25°C, AM 1.5

Parameter name	Parameter	
Cell type	TOPCON Monocrystalline	
Model	HTDS-ETF130-20	HTDS-ETF100-20
Standard power	130W	100W
Peak voltage	19.9V	21.2V
Peak Current	6.53A	4.71A
Open Circuit Voltage	23.94V	25.51V
Short Circuit Current	6.92A	5.12A
Size	1060*580*30mm	945*540*30mm
Net Weight	6.5kg	5.4kg
System Voltage	DC1000V	
Power Error Range	±3%	
IP Grade	IP67	
Cable Diameter	4mm²,The positive and negative electrodes are each 900mm	
Filling Factor	MC4	
Glass Type	3.2mm Tempering、LC、Ultra white	
OTR	- 40℃— +80℃	
TkPower	- 0.30%/℃	
TkVoltage	- 0.28%/℃	
TkCurrent	+0.05%/℃	

SOFT GOLD SERIES FLEXIBLE SOLAR PANELS

Patent number： ZL 2019 2 2248487.6

Class A high-efficiency monocrystalline silicon

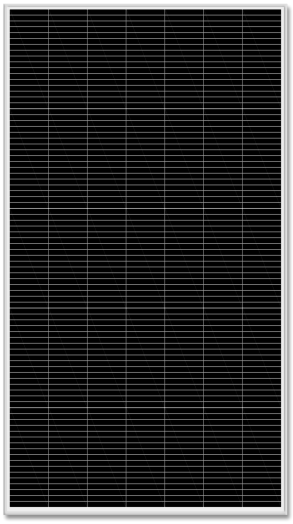


With unique packaging technology of bending components, its structure is stable, bending curvature up to 270°/m, light weight, can be used for curved surface installation, improve installation power. The surface is encapsulated with ETFE material, anti-UV, anti-corrosion, with stronger weather resistance and longer service life.

PARAMETER

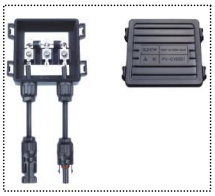
STC : Irradiance 1000 W/m², module temperature 25°C, AM 1.5

Parameter name	Parameter	
Cell type	High Efficient Mono crystalline Silicon	
Model	HGFM-SS190-18	HGFM-SS105-18
Standard power	190W	105W
Peak voltage	19.2V	21.6V
Peak Current	9.89A	4.86A
Open Circuit Voltage	23.42V	26.35V
Short Circuit Current	10.29A	5.35A
Size	1420*710*2mm	1100*540*2mm
Net Weight	2.9kg	1.8kg
System Voltage	DC1000V	
Power Error Range	±3%	
IP Grade	IP67	
Wire Length	4mm²,The positive and negative electrodes are each 300mm.	
Plug type	MC4	
OTR	- 40℃— +80℃	
TkPower	- 0.30%/℃	
TkVoltage	- 0.28%/℃	
TkCurrent	+0.05%/℃	



KING KONG EC SERIES SOLAR PANELS

Grade A high-efficiency monocrystalline silicon laminated solar panel



The Kingkong EC series solar panels are conventional monocrystalline solar panels, using TOPCON monocrystalline solar cells to enhance the power generation per unit area. They feature a conventional hard board structure, with tempered glass encapsulation and an aluminum alloy frame, making them sturdy and durable, and having a relatively high power generation efficiency. In a static state, the power output is ≥ 90% after 10 years and ≥ 80% after 20 years.

PARAMETER

STC : Irradiance 1000 W/m², module temperature 25°C, AM 1.5

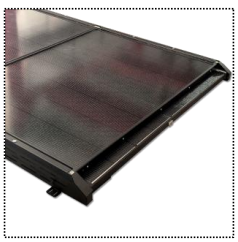
Parameter name	Parameter					
Cell type	TOPCON Monocrystalline					
Model	HTMO-ET100-20	HTMO-ET130-20	HTMO-ET155-20	HTMO-ET210-20	HTMO-OZ200-23	HTMO-ET250-19
Standard power	100W	130W	155W	210W	200W	250W
Peak voltage	21.2V	19.9V	21.8V	21.8V	23.6V	19.4V
Peak Current	4.71A	6.53A	7.11A	9.62A	8.47A	12.89A
Open Circuit Voltage	25.51V	23.94V	26.24V	26.23V	28.39V	23.33V
Short Circuit Current	5.12A	6.92A	7.48A	9.98A	8.86A	13.26A
Size	945*540*30mm	1060*580*30mm	1305*580*35mm	1305*763*35mm	1410*663*35mm	1560*763*35mm
Net Weight	5.3kg	6.4kg	8.0kg	10.5kg	9.4kg	12.6kg
System Voltage	DC1000V					
Power Error Range	±3%					
IP Grade	IP67					
Cable Diameter	2.5mm², 900mm		4mm², 900mm			
Filling Factor	MC4					
Glass Type	3.2mm Tempering、LC、Ultra white					
OTR	- 40℃— +80℃					
TkPower	- 0.30%/℃					
TkVoltage	- 0.28%/℃					
TkCurrent	+0.05%/℃					

LIGHT WING SERIES EXPANDABLE SOLAR PANELS

The expandable solar panel is a new installation method that increases the number of panels in limited space and boosts power output. It features a multi-layer design for various expansion options and is ideal for vehicles, mobile homes, and off-grid systems.
Hotian New Energy's second-generation lightweight expandable solar panels uses the conventional solar panel with tempered glass on top to resist hail and debris.The lower layer can be equipped with the patented product of Hotian New Energy: the Dream Series lightweight solar panels, reducing overall weight. The aluminum frame is 30% lighter than the first generation.

FEATURES

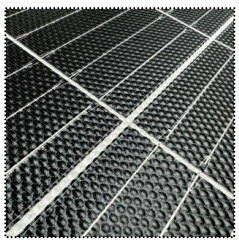
- It supports electric, manual, or combined telescopic methods for convenience and versatility.
- The electric mechanism uses industrial-grade worm gear motors with self-locking, adjustable speed, reversible rotation, and stable performance even after 5,000+ cycles.
- Ball screws ensure smooth movement and reduce jamming risks.
- Heavy-duty slide rails provide wind and shock resistance, ensuring stability.
- The 2.4G remote control minimizes interference from external signals.
- L-shaped corner connectors allow height adjustments and secure installation.
- The aluminum alloy frame is lightweight and strong.
- Optional Dream Series solar panels are 50% lighter and Higher seismic resistance performance.



Telescopic structure

Screw fixation

Diversion plate



Lightweight solar panels

EXPANSION METHODS

- One-to-One: One upper component fixed, one expansion component extends to one side.
- One-to-Two: One upper component fixed, two expansion components extend to both sides.
- One-to-Four: One upper component fixed, four expansion components extend to all four sides.
- Two-to-Two: Two upper components fixed, two expansion components extend to both sides.

CONTROL METHODS

- Electric control (controlled by remote control or electronic switch)
- Manual control (pure manual control or manual plus electric)

Parameter name	Parameter
Product Name	Second-generation lightweight retractable solar panels
Model	Light Wing S2000A/2-2(1460W)
Telescopic mode	Two-to-Two
Control mode	Remote control & Manual control
Fully retracted size.	2500mm*1620mm*150mm
Fully expanded size	4600mm*1620mm*150mm
Weight	95Kg
Fully retracted power	730W
Fully expanded power	1460W
Number of solar panels	4 PCS （The same specification）
Battery voltage compatibility	12V,24V(Step-down charging) 48V,60V,72V (Boost charging)
Lnstallation method	L-shaped corner connector screw installation
Parameters of a single battery panel STC : Irradiance 1000 W/m², module temperature 25°C, AM 1.5	
Standard power	365W
Peak voltage	24.81V
Peak Current	14.71A
Open Circuit Voltage	30.2V
Short Circuit Current	16.18A
Size	1500*1100*40mm
Net Weight	19Kg(Conventional solar panel) 9.7Kg(Dream Series lightweight solar panel)
System Voltage	DC1000V
Power Error Range	±2%
IP Grade	IP67
OTR	- 40℃— +80℃
TkPower	- 0.38%/℃
TkVoltage	- 0.36%/℃
TkCurrent	+0.06%/℃

MP SERIES SOLAR CHARGE CONTROLLER

Patent number：ZL 2018 2 1299429.5

MPPT maximum power tracking module

The MPPT solar controller is used to control the PV panel for battery charge. The built-in MPPT maximum power tracking module can detect the solar panel's power generation voltage in real time, and track the highest voltage and current value (VI), so that the system can charge the battery with the maximum power output. It is applied to the solar PV system, which coordinates the work of solar panels, batteries, and loads, and has the function of protecting the battery from overcharging and over discharging.

FEATURES

- Advanced dual-peak or multi-peak tracking technology, when the panel is shaded or part of the panel is damaged, the I-V curve will come into being multiple peaks, and the controller can still accurately track the max power point.
- Built-in maximum power tracking algorithm, which is about 20% higher than the traditional PWM charging efficiency, can significantly improve the energy utilization efficiency of PV systems.
- Up to 99.9% MPPT tracking rate.
- Supporting gel batteries, sealed batteries, open batteries, lithium batteries,etc.
- Current-limit charging mode. When the power of the panel is overload and the charging current is greater than the rated current, the controller automatically reduces the charging power to operate it at the rated charging current.
- Support battery voltage automatic identification.
- LED fault indication, LCD abnormal information indication, convenient for the user to determine the system fault.
- LCD screen shows device running data and status, and supports controller parameter altering.
- Standard MODEBUS protocol to meet the communication needs on different occasions.
- External Bluetooth, mobile phone app connection, to view solar charging and battery storage in real time.

PARAMEES

(Note: * n When the system voltage is 12 v, n = 1; When the system voltage is 24V, n = 2)

Parameter name	Parameter				
Model	HT-M2420/N	HT-M2430/N	HT-M2440/N	HT-M4860/N	
System voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li/User)			12V/24V/36V/48V Auto (FLD/GEL/SLD) Manual (Li/User)	
No-load loss	12mA(12V),10mA(24V)			12mA(12V),10mA(24V) 8mA(36V),6mA(48V)	
Maximum solar input voltage	＜100Voc			＜150Voc	
Rated charging current	20A	30A	40A	60A	
Maximum input power of photovoltaic system	300W/12V 600W/24V	450W/12V 900W/24V	600W/12V 1200W/24V	900W/12V 1800W/24V 2600W/36V 3200W/48V	
Optically controlled voltage	5V*n				
Light controlled time	10s				
Rated discharge current	20A				
Operating temperature	-35°C ～ +45°C				
Protection class	IP32				
Weight	1.0kg	2.0kg	2.0kg	3.0kg	
Communication mode	RS485(Modbus)				
Altitude	≤ 3000 m				
Size	180*140*71 mm	245*180*82.5mm		280*210*90 mm	
Parameter name	Battery type and related parameters				
Battery type	FLD	SEL	GEL(Default)	USER (configurable)	LI (configurable)
Equalizing charge voltage	14.8V*n	14.6V*n	--	Default:GEL	--
Boost charging voltage	14.6V*n	14.4V*n	14.2V*n	Default:GEL	默认 14.2V*n
Floating charge voltage	13.8V*n			Default:GEL	--
Increase the charge return voltage	13.2V*n			Default:GEL	--
Overdischarge return voltage	12.6V*n			Default:GEL	--
Overdischarge voltage	11.1V*n			Default:GEL	Default 11.1V*n
Temperature compensation coefficient	-3mV/2V/℃			Default:GEL	--