

1KW to 50KW Off-grid solar power system



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Introduction

Solar power system takes the inexhaustible solar energy as the energy source, which is environment-friendly and without pollution during the use, and is one of the best green energy systems at present.



1KW-100KW medium-large sized independent smart micro-grid photovoltaic systems are developed by us. The PV system is developed to help users fully solve power utilization problems especially in power shortage regions. The purpose of the system is to take full advantage of sunlight to improve people's living standard and life quality and mitigate the power utilization pressure in power shortage regions.

The PV system takes integration and modularization as the design concept, which consist of solar power generation module, battery module, solar control/inverter/digital and intelligent monitoring module. The system runs independently without reliance on conventional power grid system consisting of thermal power, hydraulic power and nuclear power. Besides, the PV system can also be complemented with diesel engine power, mains supply and wind power to supply power to users in a uninterrupted manner.

Modular design provides multifunction options, which is convenient for clients to consider comprehensively in terms of cost and using environment according to actual needs, thus to obtain a satisfactory solar energy power system. The installation and use of the system are easy due to the introduction of modularization. The installation is simple and the maintenance is convenient, greatly increasing the system's installation efficiency, reducing the difficulties of use.



The PV system has double protection of software and hardware and adequate protection between modules. The high safety is helpful for protecting property and life safety of persons while installing and using it.



Application

Solar power generation module & battery module & Power control module & other energy supply sources are equal to a independent smart micro-grid photovoltaic system, which is typically green energy. The system is widely used in power shortage regions, and is also widely used in communications/communication base stations, meteorological monitoring ,street lamps/traffic lights and home applications, etc.

In terms of product integration, we integrate batteries and control cabinet into a container to form a control room for smart micro-grid, making the products more complete and optimized, simplifying the installation process and reducing the infrastructure costs of the user .

Features

1. green energy, no pollution, improve the quality of life, improve lifestyle
2. integrated design, high energy conversion efficiency of the overall system
3. modular design, maintenance / repair simple
4. intelligent management / monitoring, centralized distribution system power efficient management
5. display interface/ facilitation, industrial LCD touch screen, graphic combination, easy to understand
6. system faults displayed directly on the LCD screen
7. hardware / software dual protection, safe, reliable, high stability
8. Full protection system design, anti-reverse / reverse charge / overcharge / over discharge / over voltage / overload / short circuit protection complete
9. pure sine wave AC output, can meet a variety of power requirements for electrical equipment
10. high-quality industrial frequency inverters, high quality silicon steel core /copper coils, inverter efficiency up to 92%
11. Original creation energy-saving mode, no load use electricity little
12. with AC electricity / diesel complementary, the system automatically switches to achieve uninterrupted power supply



Solar power generation module

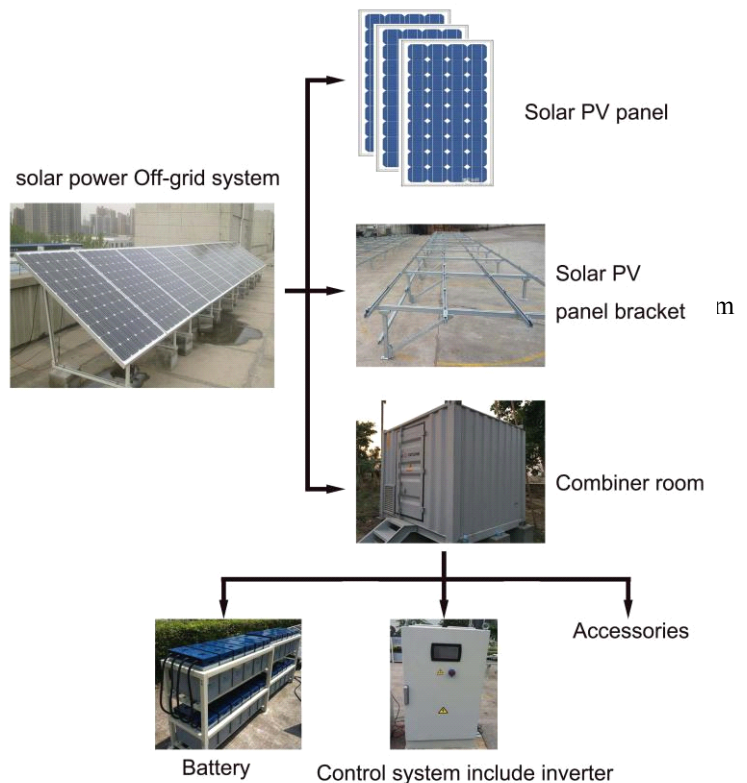
It consists of solar PV panels, brackets and combiner box.

Solar PV panel

The solar panels transform the solar energy into power energy through photovoltaic effect for use. Solar panels produced by us include monocrystalline solar panels and polycrystalline solar panels, the users can choose according to their needs. For the specification, please refer to our catalogue.

Solar PV panel bracket

The brackets can fix the solar panels to enable the solar power generation module run safely and stably in various environments. Brackets of two materials are provided by us. One is galvanized steel bracket which is firm and high corrosion resistance. The other is hard aluminum bracket which is light, elegant appearance and highly resistant to wind and sand. The brackets can be installed on the roof or ground according to the client's requirement.



Combiner box

The combiner box contains a high safety level of lightning protection module and a main circuit breaker, which are convenient for users to install and maintain the solar power generation module and enhance the system safety.

>>>Battery : It consists of maintenance-free batteries, battery brackets and connecting wires. The maintenance-free battery is of lowering the maintenance cost and increasing the power utilization safety and using quality. The type of Battery provided by us is AGM/GEL maintenance-free battery. Voltage of a single battery is 2V or 12V, it is convenient for users to replace. The batteries should be charged in time in the process of using, and the connection of the batteries should be checked on a regular basis. Batteries must not be running on the low battery level for long time.

>>>Control system: It is the heart of the entire system. We use integrated design concept to combine the power controller, pure sine wave frequency inverter and the industrial monitoring module as a whole, thus to realize centralized management and distribution of electric energy of the entire system. The power energy using efficiency is thus increased and it is convenient for users. Therefore, the solar power system becomes easy and simple.

The intelligent monitoring module consists of touch control LCD screen and sensors, which can monitor and control the running condition of the entire system on a real-time basis and help users to see the running situation of the system.

System Configuration Specification

1KW Off-grid Solar Power System			
The power generation is about 3.6KW.H per day.			
The working capacity of battery is about 5.76KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	4
Power system	1KW, 48VDC/230VAC, 50HZ	Controller and inverter all in one	1
Battery	12V/120Ah	AGM deep cycle	4
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

2KW Off-grid Solar Power System			
The power generation is about 7.2KW.H per day.			
The working capacity of battery is about 12.48KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	8
Power system	2KW, 48VDC/230VAC, 50HZ	Controller and inverter all in one	1
Battery	12V/260Ah	AGM deep cycle	4
Combiner box	4 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

3KW Off-grid Solar Power System			
The power generation is about 10.8KW.H per day.			
The working capacity of battery is about 17.28KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	12
Power system	3KW, 48VDC/230VAC, 50HZ	Controller and inverter all in one	1
Battery	12V/180Ah	AGM deep cycle	8
Combiner box	6 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

5KW Off-grid Solar Power System			
The power generation is about 18KW.H per day.			
The working capacity of battery is about 28.8KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	20
Power system	5KW, 96VDC/230VAC, 50HZ	Controller and inverter all in one	1
Battery	12V/150Ah	AGM deep cycle	8
Combiner box	6 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

8KW Off-grid Solar Power System			
The power generation is about 28.8KW.H per day.			
The working capacity of battery is about 27KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	32
Power system	8KW, 96VDC/230VAC, 50HZ	Controller and inverter all in one	1
Battery	12V/260Ah	AGM deep cycle	16
Combiner box	8 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

10KW Off-grid Solar Power System			
The power generation is about 36KW.H per day.			
The working capacity of battery is about 55.2KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	40
Power system	10KW, 240VDC/380VAC, 3P4W	Controller and inverter all in one	1
Battery	12V/230Ah	AGM deep cycle	20
Combiner box	4 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

15KW Off-grid Solar Power System			
The power generation is about 54KW.H per day.			
The working capacity of battery is about 86.4KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	60
Power system	15KW, 240VDC/380VAC, 3P4W	Controller and inverter all in one	1
Battery	12V/180Ah	AGM deep cycle	40
Combiner box	8 to 1		1
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

20KW Off-grid Solar Power System			
The power generation is about 72KW.H per day.			
The working capacity of battery is about 100.8KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	80
Power system	20KW, 240VDC/380VAC, 3P4W	Controller and inverter all in one	1
Battery	12V/230Ah	AGM deep cycle	40
Combiner box	4to 1		2
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1

50KW Off-grid Solar Power System			
The power generation is about 180KW.H per day.			
The working capacity of battery is about 288KW.H after fully charged			
Part list and datasheet			
Item	Spec	Details	Quantity/pcs(set)
solar panel	250W,poly	30V, 1640*992*40mm	200
Power system	50KW, 240VDC/380VAC, 3P4W	Controller and inverter all in one	1
Battery	12V/1200Ah	AGM deep cycle	120
Combiner box	4 to 1		5
Solar panel support			1
Battery bracket			1
accessories		Cable and others	1